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(71) Applicant *(for all designated States except US)*: E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: ANDREA, Tariq, Arthur [US/US]; 13 Slashpine Circle, Hockessin, DE 19707-9206 (US). BROWN, Richard, James [US/US]; 225 North Star Road, Newark, DE 19711-2939 (US). COATS, Reed, Aaron [US/US]; 3215 Brookline Drive, Wilmington, DE 19808-2612 (US). DANIEL, Dilon, Jancey [US/US]; 3407 Christiana Meadows, Bear, DE 19701-2867 (US). FRASIER, Deborah, Ann [US/US]; 2371 Pinnacle Drive, Martinez, CA 94553-5029 (US). HOWARD, Michael, Henry, Jr. [US/US]; 908 Montchanin Road, P.O. Box 407, Rockland, DE 19732-0407 (US). KOETHER, Gerard, Michael [US/US]; 2304 Porter Road, Bear, DE 19701-2021 (US). RORER, Morris, Padgett [US/US]; 64 Lower Valley Lane, Newark, DE 19711 (US). WALKER, Michael, Paul [US/US]; 22 Matthews Road, Newark, DE 19713-2558 (US). XU, Simon, Lingqi [CN/US]; 9 Teakwood Drive, Newark, DE 19702-2876 (US). SELBY, Thomas, Paul [US/US]; 116 Hunter Court, Wilmington, DE 19808-1978 (US).

(74) Agent: HEISER, David, E.; E.I. du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).

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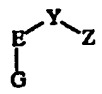
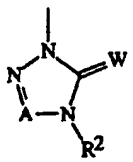
(54) Title: FUNGICIDAL CYCLIC AMIDES

(57) Abstract

Compounds of Formula (I), and their *N*-oxides and agriculturally suitable salts, are disclosed which are useful as fungicides, wherein G is selected from the group (G-1), (G-2), (G-3), (G-4), and (G-5). A is N or CR^{14}; B is O; S; or NR^5; each W is independently O; S; NH; $N(C_1\text{-}C_6$ alkyl); or $NO(C_1\text{-}C_6$alkyl); X is H; $C_1\text{-}C_6$alkyl; $C_1\text{-}C_6$haloalkyl; $C_3\text{-}C_6$cycloalkyl; cyano; NH_2; NHR^1; $N(C_1\text{-}C_6$alkyl)R^1; $NH(C_1\text{-}C_6$alkoxy); or $N(C_1\text{-}C_6$alkoxy)R^1; and E, X^1, R^1, R^2, R^5, R^{14}, Y, and Z are as defined in the disclosure. Also disclosed are compositions containing the compounds of Formula (I) and a method for controlling plant diseases caused by fungal plant pathogens which involves applying an effective amount of a compound of Formula (I).



(I)



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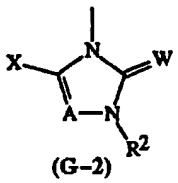

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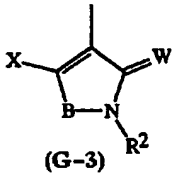

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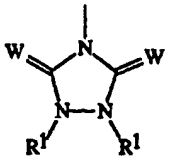

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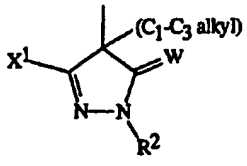

(G-5)

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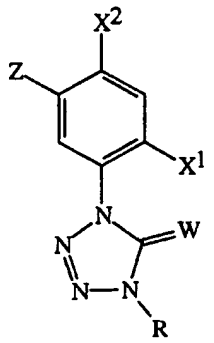
TITLE
FUNGICIDAL CYCLIC AMIDES

BACKGROUND OF THE INVENTION

This invention relates to certain cyclic amides, their *N*-oxides, agriculturally suitable salts and compositions, and methods of their use as fungicides.

The control of plant diseases caused by fungal plant pathogens is extremely important in achieving high crop efficiency. Plant disease damage to ornamental, vegetable, field, cereal, and fruit crops can cause significant reduction in productivity and thereby result in increased costs to the consumer. Many products are commercially available for these purposes, but the need continues for new compounds which are more effective, less costly, less toxic, environmentally safer or have different modes of action.

WO 85/01939 discloses tetrazolones of Formula i as herbicides:



i

wherein

W is O or S;

R is alkyl, haloalkyl, alkoxyalkyl, alkylthioalkyl, cyanoalkyl, haloalkoxyalkyl, trifluoromethylthio, alkenyl, or haloalkenyl;

one of X^1 and X^2 is F, Cl, or Br and the other is F, Cl, Br, alkyl, or haloalkyl; or when X^1 is F, Cl, or Br, X^2 may be selected from the substituents above and nitro; and

Z is H; F; Cl; Br; cyano; nitro; alkyl; alkyl substituted with F, Cl, Br, or alkoxy; and alkynyl.

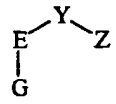
However, no utility as fungicides is alleged and the cyclic amides of the present invention are not disclosed therein.

U.S. 5,108,486, U.S. 5,064,845, U.S. 5,138,068, U.S. 4,059,703, U.S. 5,035,740, EP 679,643 and *J. Heterocyclic Chem.* (1988), *25*, 1307-1310 teach various heterocyclic

compounds including 1,2,4-triazolinones, pyrazolinones, tetrazolinones and tetrazoles. The cyclic amides of the present invention are not disclosed in any of these publications.

SUMMARY OF THE INVENTION

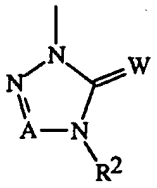
This invention is directed to compounds of Formula I including all geometric and stereoisomers, *N*-oxides, and agriculturally suitable salts thereof, agricultural compositions containing them and their use as fungicides:



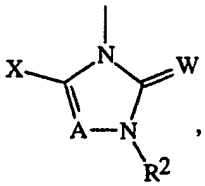
I

wherein

G is selected from the group



G-1



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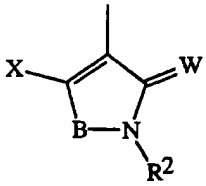

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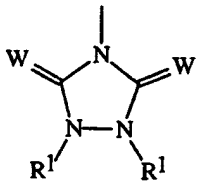
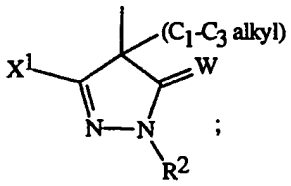


G-4

, and



G-5

;

E is selected from:

i) 1,2-phenylene optionally substituted with one of R^3, R^4, or both R^3 and R^4;

ii) a naphthalene ring, provided that when G and Y are attached to the same ring, then G and Y are attached to adjacent ring members, the naphthalene ring optionally substituted with one of R^3, R^4, or both R^3 and R^4; and

iii) a ring system selected from 5 to 12-membered monocyclic and fused bicyclic aromatic heterocyclic ring systems, each heterocyclic ring system

containing 1 to 6 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring system contains no more than 4 nitrogens, no more than 2 oxygens, and no more than 2 sulfurs, each fused bicyclic ring system optionally containing one nonaromatic ring that optionally includes one or two Q as ring members and optionally includes one or two ring members independently selected from C(=O) and $S(O)_2$, provided that G is attached to an aromatic ring, and when G and Y are attached to the same ring, then G and Y are attached to adjacent ring members, each aromatic heterocyclic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

A is N or CR^{14};

B is O; S; or NR^5;

each W is independently O; S; NH; $N(C_1\text{-}C_6$ alkyl); or $NO(C_1\text{-}C_6$ alkyl);

X is H; $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_3\text{-}C_6$ cycloalkyl; cyano; NH_2; NHR^1; $N(C_1\text{-}C_6$ alkyl)R^1; $NH(C_1\text{-}C_6$ alkoxy); or $N(C_1\text{-}C_6$ alkoxy)R^1;

X^1 is $C_1\text{-}C_6$ alkoxy; $C_1\text{-}C_6$ haloalkoxy; $C_2\text{-}C_6$ alkenyloxy; $C_2\text{-}C_6$ haloalkenyloxy; $C_2\text{-}C_6$ alkynyloxy; $C_2\text{-}C_6$ haloalkynyloxy; $C_3\text{-}C_6$ cycloalkoxy; $C_1\text{-}C_6$ alkylthio; $C_1\text{-}C_6$ haloalkylthio; $C_2\text{-}C_6$ alkenylthio; $C_2\text{-}C_6$ haloalkenylthio; $C_2\text{-}C_6$ alkynylthio; $C_2\text{-}C_6$ haloalkynylthio; $C_3\text{-}C_6$ cycloalkylthio; $C_1\text{-}C_6$ alkylsulfinyl; $C_1\text{-}C_6$ haloalkylsulfinyl; $C_2\text{-}C_6$ alkenylsulfinyl; $C_2\text{-}C_6$ haloalkenylsulfinyl; $C_2\text{-}C_6$ alkynylsulfinyl; $C_2\text{-}C_6$ haloalkynylsulfinyl; $C_3\text{-}C_6$ cycloalkylsulfinyl; $C_1\text{-}C_6$ alkylsulfonyl; $C_1\text{-}C_6$ haloalkylsulfonyl; $C_2\text{-}C_6$ alkenylsulfonyl; $C_2\text{-}C_6$ haloalkenylsulfonyl; $C_2\text{-}C_6$ alkynylsulfonyl; $C_2\text{-}C_6$ haloalkynylsulfonyl; $C_3\text{-}C_6$ cycloalkylsulfonyl; halogen; or X;

each R^1 is independently $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_2\text{-}C_6$ alkenyl; $C_2\text{-}C_6$ haloalkenyl; $C_2\text{-}C_6$ alkynyl; $C_2\text{-}C_6$ haloalkynyl; $C_3\text{-}C_6$ cycloalkyl; $C_1\text{-}C_6$ alkoxy; formyl; $C_2\text{-}C_4$ alkylcarbonyl; or $C_2\text{-}C_4$ alkoxycarbonyl; provided that when G is G-4, then only one of R^1 can be $C_1\text{-}C_6$ alkoxy;

R^2 is H; $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_2\text{-}C_6$ alkenyl; $C_2\text{-}C_6$ haloalkenyl; $C_2\text{-}C_6$ alkynyl; $C_2\text{-}C_6$ haloalkynyl; $C_3\text{-}C_6$ cycloalkyl; $C_2\text{-}C_4$ alkylcarbonyl; $C_2\text{-}C_4$ alkoxycarbonyl; hydroxy; $C_1\text{-}C_2$ alkoxy; or acetyloxy;

R^3 and R^4 are each independently halogen; cyano; nitro; hydroxy; $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_2\text{-}C_6$ alkenyl; $C_2\text{-}C_6$ haloalkenyl; $C_2\text{-}C_6$ alkynyl; $C_2\text{-}C_6$ haloalkynyl; $C_1\text{-}C_6$ alkoxy; $C_1\text{-}C_6$ haloalkoxy; $C_2\text{-}C_6$ alkenyloxy; $C_2\text{-}C_6$ alkynyloxy; $C_1\text{-}C_6$ alkylthio; $C_1\text{-}C_6$ alkylsulfinyl; $C_1\text{-}C_6$ alkylsulfonyl; formyl; $C_2\text{-}C_6$ alkylcarbonyl; $C_2\text{-}C_6$ alkoxycarbonyl; $NH_2C(O)$;

(C_1-C_4 alkyl)NHC(O); (C_1-C_4 alkyl)$_2$NC(O); Si(R^{25})$_3$; Ge(R^{25})$_3$; (R^{25})$_3$Si-C≡C-; or phenyl, phenylethynyl, benzoyl, or phenylsulfonyl each substituted with R^8 and optionally substituted with one or more R^{10}; or

when E is 1,2-phenylene and R^3 and R^4 are attached to adjacent atoms, R^3 and R^4 can be taken together as C_3-C_5 alkylene, C_3-C_5 haloalkylene, C_3-C_5 alkenylene or C_3-C_5 haloalkenylene each optionally substituted with 1-2 C_1-C_3 alkyl;

R^5 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; C_2-C_4 alkylcarbonyl; or C_2-C_4 alkoxycarbonyl;

Y is -O-; -S(O)$_n$-; -NR^{15}-; -C(=O)-; -CH(OR^{15})-; -CHR^6-; -CHR^{6}CHR^6-; -CR^6=CR^6-; -C≡C-; -CHR^{15}O-; -OCHR^{15}-; -CHR^{15}S(O)$_n$-; -S(O)$_n$CHR^{15}-; -CHR^{15}O-N=C(R^7)-; -(R^7)C=N-OCH(R^{15})-; -C(R^7)=N-O-; -O-N=C(R^7)-; -CHR^{15}OC(=O)N(R^{15})-; -CHR^{15}OC(=S)N(R^{15})-; -CHR^{15}OC(=O)O-; -CHR^{15}OC(=S)O-; -CHR^{15}OC(=O)S-; -CHR^{15}OC(=S)S-; -CHR^{15}SC(=O)N(R^{15})-; -CHR^{15}SC(=S)N(R^{15})-; -CHR^{15}SC(=O)O-; -CHR^{15}SC(=S)O-; -CHR^{15}SC(=O)S-; -CHR^{15}SC(=S)S-; -CHR^{15}SC(=NR^{15})S-; -CHR^{15}N(R^{15})C(=O)N(R^{15})-; -CHR^{15}O-N(R^{15})C(=O)N(R^{15})-; -CHR^{15}O-N(R^{15})C(=S)N(R^{15})-; -CHR^{15}O-N=C(R^7)NR^{15}-; -CHR^{15}O-N=C(R^7)OCH$_2$-; -CHR^{15}O-N=C(R^7)-N=N-; -CHR^{15}O-N=C(R^7)-C(=O)-; -CHR^{15}O-N=C(R^7)-C(=N-A^2-Z^1)-A^1-; -CHR^{15}O-N=C(R^7)-C(R^7)=N-A^2-A^3-; -CHR^{15}O-N=C(-C(R^7)=N-A^2-Z^1)-; -CHR^{15}O-N=C(R^7)-CH$_2$O-; -CHR^{15}O-N=C(R^7)-CH$_2$S-; -O-CH$_2$CH$_2$O-N=C(R^7)-; -CHR^{15}O-C(R^{15})=C(R^7)-; -CHR^{15}O-C(R^7)=N-; -CHR^{15}S-C(R^7)=N-; -C(R^7)=N-NR^{15}-; -CH=N-N=C(R^7)-; -CHR^{15}N(R^{15})-N=C(R^7)-; -CHR^{15}N(COCH$_3$)-N=C(R^7)-; -OC(=S)NR^{15}C(=O)-; -CHR^6-C(=W^1)-A^1-; -CHR^{6}CHR^6-C(=W^1)-A^1-; -CR^6=CR^6-C(=W^1)-A^1-; -C≡C-C(=W^1)-A^1-; -N=CR^6-C(=W^1)-A^1-; or a direct bond; and the directionality of the Y linkage is defined such that the moiety depicted on the left side of the linkage is bonded to E and the moiety on the right side of the linkage is bonded to Z;

Z^1 is H or -A^3-Z;

W^1 is O or S;

A^1 is O; S; NR^{15}; or a direct bond;

A^2 is O; NR^{15}; or a direct bond;

A^3 is -C(=O)-; -$S(O)_2$-; or a direct bond;

each R^6 is independently H; 1-2 CH_3; C_2-C_3 alkyl; C_1-C_3 alkoxy; C_3-C_6 cycloalkyl; formylamino; C_2-C_4 alkylcarbonylamino; C_2-C_4 alkoxycarbonylamino; $NH_2C(O)NH$; (C_1-C_3 alkyl)NHC(O)NH; (C_1-C_3 alkyl)$_2$NC(O)NH; N(C_1-C_3 alkyl)$_2$; piperidinyl; morpholinyl; 1-2 halogen; cyano; or nitro;

each R^7 is independently H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_1-C_6 alkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 alkylsulfonyl; C_1-C_6 haloalkylthio; C_1-C_6 haloalkylsulfinyl; C_1-C_6 haloalkylsulfonyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; C_2-C_4 alkylcarbonyl; C_2-C_4 alkoxycarbonyl; halogen; cyano; nitro; hydroxy; amino; NH(C_1-C_6 alkyl); N(C_1-C_6 alkyl)$_2$; or morpholinyl;

each Z is independently selected from:

i) C_1-C_{10} alkyl, C_2-C_{10} alkenyl, and C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10};

ii) C_3-C_8 cycloalkyl, C_3-C_8 cycloalkenyl and phenyl each substituted with R^9 and optionally substituted with one or more R^{10};

iii) a ring system selected from 3 to 14-membered monocyclic, fused bicyclic and fused tricyclic nonaromatic heterocyclic ring systems and 5 to 14-membered monocyclic, fused bicyclic and fused tricyclic aromatic heterocyclic ring systems, each heterocyclic ring system containing 1 to 6 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring system contains no more than 4 nitrogens, no more than 2 oxygens, and no more than 2 sulfurs, each nonaromatic or aromatic heterocyclic ring system substituted with R^9 and optionally substituted with one or more R^{10};

iv) a multicyclic ring system selected from 8 to 14-membered fused-bicyclic and fused-tricyclic ring systems which are an aromatic carbocyclic ring system, a nonaromatic carbocyclic ring system, or a ring system containing one or two nonaromatic rings that each include one or two Q as ring members and one or two ring members independently selected from C(=O) and $S(O)_2$, and any remaining rings as aromatic carbocyclic rings, each multicyclic ring system substituted with R^9 and optionally substituted with one or more R^{10}; and

v) adamantyl substituted with R^9 and optionally substituted with one or more R^{10};

each Q is independently selected from the group -CHR^{13}-, -NR^{13}-, -O-, and -$S(O)_p$-;

R^8 is H; 1-2 halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_1-C_6 alkylthio; C_1-C_6 haloalkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 alkylsulfonyl; C_3-C_6 cycloalkyl; C_3-C_6 alkenyloxy; CO_2(C_1-C_6 alkyl); NH(C_1-C_6 alkyl); N(C_1-C_6 alkyl)$_2$; cyano; nitro; $SiR^{19}R^{20}R^{21}$; or $GeR^{19}R^{20}R^{21}$;

R^9 is H; 1-2 halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl or C_3-C_6 cycloalkenyl each optionally substituted with at least one member selected from 1-2 halogen, 1-2 C_1-C_3 alkyl, 1-2 C_1-C_3 alkoxy, and one phenyl optionally substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano; C_2-C_6 alkoxyalkyl; C_2-C_6 alkylthioalkyl; C_3-C_6 alkoxyalkynyl; C_7-C_{10} tetrahydropyranyloxyalkynyl; benzyloxymethyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_3-C_6 alkenyloxy; C_3-C_6 haloalkenyloxy; C_3-C_6 alkynyloxy; C_3-C_6 haloalkynyloxy; C_1-C_6 cycloalkoxy; C_2-C_6 alkoxyalkoxy; C_5-C_9 trialkylsilylalkoxyalkoxy; C_2-C_6 alkylthioalkoxy; C_1-C_6 alkylthio; C_1-C_6 haloalkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 haloalkylsulfinyl; C_1-C_6 alkylsulfonyl; C_1-C_6 haloalkylsulfonyl; C_3-C_6 alkenylthio; C_3-C_6 haloalkenylthio; C_2-C_6 alkylthioalkylthio; CO_2(C_1-C_6 alkyl); NH(C_1-C_6 alkyl); N(C_1-C_6 alkyl)$_2$; -$C(R^{18})$=NOR^{17}; cyano; nitro; SF_5; $SiR^{22}R^{23}R^{24}$; or $GeR^{22}R^{23}R^{24}$; or R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12};

each R^{10} is independently halogen; C_1-C_4 alkyl optionally substituted with 1-3 C_1-C_3 alkoxy; C_1-C_4 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; C_2-C_6 alkoxyalkyl; C_2-C_6 alkylthioalkyl; C_3-C_6 alkoxyalkynyl; C_7-C_{10} tetrahydropyranyloxyalkynyl; benzyloxymethyl; C_1-C_4 alkoxy; C_1-C_4 haloalkoxy; C_3-C_6 alkenyloxy; C_3-C_6 haloalkenyloxy; C_3-C_6 alkynyloxy; C_3-C_6 haloalkynyloxy; C_1-C_6 cycloalkoxy; C_2-C_6 alkoxyalkoxy; C_5-C_9 trialkylsilylalkoxyalkoxy; C_2-C_6 alkylthioalkoxy; C_1-C_4 alkylthio; C_1-C_4 haloalkylthio; C_1-C_4 alkylsulfinyl; C_1-C_4 haloalkylsulfinyl; C_1-C_4 alkylsulfonyl; C_1-C_4 haloalkylsulfonyl; C_3-C_6

alkenylthio; C_3-C_6 haloalkenylthio; C_2-C_6 alkylthioalkylthio; nitro; cyano; thiocyanato; hydroxy; $N(R^{26})_2$; SF_5; $Si(R^{25})_3$; $Ge(R^{25})_3$; $(R^{25})_3Si$-C≡C-; $OSi(R^{25})_3$; $OGe(R^{25})_3$; $C(=O)R^{26}$; $C(=S)R^{26}$; $C(=O)OR^{26}$; $C(=S)OR^{26}$; $C(=O)SR^{26}$; $C(=S)SR^{26}$; $C(=O)N(R^{26})_2$; $C(=S)N(R^{26})_2$; $OC(=O)R^{26}$; $OC(=S)R^{26}$; $SC(=O)R^{26}$; $SC(=S)R^{26}$; $N(R^{26})C(=O)R^{26}$; $N(R^{26})C(=S)R^{26}$; $OC(=O)OR^{27}$; $OC(=O)SR^{27}$; $OC(=O)N(R^{26})_2$; $SC(=O)OR^{27}$; $SC(=O)SR^{27}$; $S(O)_2OR^{26}$; $S(O)_2N(R^{26})_2$; $OS(O)_2R^{27}$; or $N(R^{26})S(O)_2R^{27}$; or

when R^9 and an R^{10} are attached to adjacent atoms on Z, R^9 and said adjacently attached R^{10} can be taken together as $-OCH_2O-$ or $-OCH_2CH_2O-$; each CH_2 group of said taken together R^9 and R^{10} optionally substituted with 1-2 halogen; or

when Y and an R^{10} are attached to adjacent atoms on Z and Y is $-CHR^{15}O-N=C(R^7)-$, $-O-N=C(R^7)-$, $-O-CH_2CH_2O-N=C(R^7)-$, $-CHR^{15}O-C(R^{15})=C(R^7)-$, $-CH=N-N=C(R^7)-$, $-CHR^{15}N(R^{15})-N=C(R^7)-$ or $-CHR^{15}N(COCH_3)-N=C(R^7)-$, R^7 and said adjacently attached R^{10} can be taken together as $-(CH_2)_r-J-$ such that J is attached to Z;

J is $-CH_2-$; $-CH_2CH_2-$; $-OCH_2-$; $-CH_2O-$; $-SCH_2-$; $-CH_2S-$; $-N(R^{16})CH_2-$; or $-CH_2N(R^{16})-$; each CH_2 group of said J optionally substituted with 1 to 2 CH_3;

R^{11} and R^{12} are each independently 1-2 halogen; C_1-C_4 alkyl; C_1-C_4 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_2-C_6 alkoxyalkyl; C_2-C_6 alkylthioalkyl; C_3-C_6 alkoxyalkynyl; C_7-C_{10} tetrahydropyranyloxyalkynyl; benzyloxymethyl; C_1-C_4 alkoxy; C_1-C_4 haloalkoxy; C_3-C_6 alkenyloxy; C_3-C_6 haloalkenyloxy; C_3-C_6 alkynyloxy; C_3-C_6 haloalkynyloxy; C_2-C_6 alkoxyalkoxy; C_5-C_9 trialkylsilylalkoxyalkoxy; C_2-C_6 alkylthioalkoxy; C_1-C_4 alkylthio; C_1-C_4 haloalkylthio; C_1-C_4 alkylsulfinyl; C_1-C_4 haloalkylsulfinyl; C_1-C_4 alkylsulfonyl; C_1-C_4 haloalkylsulfonyl; C_3-C_6 alkenylthio; C_3-C_6 haloalkenylthio; C_2-C_6 alkylthioalkylthio; nitro; cyano; thiocyanato; hydroxy; $N(R^{26})_2$; SF_5; $Si(R^{25})_3$; $Ge(R^{25})_3$; $(R^{25})_3Si$-C≡C-; $OSi(R^{25})_3$; $OGe(R^{25})_3$; $C(=O)R^{26}$; $C(=S)R^{26}$; $C(=O)OR^{26}$; $C(=S)OR^{26}$; $C(=O)SR^{26}$; $C(=S)SR^{26}$; $C(=O)N(R^{26})_2$; $C(=S)N(R^{26})_2$; $OC(=O)R^{26}$; $OC(=S)R^{26}$; $SC(=O)R^{26}$; $SC(=S)R^{26}$; $N(R^{26})C(=O)R^{26}$; $N(R^{26})C(=S)R^{26}$; $OC(=O)OR^{27}$; $OC(=O)SR^{27}$; $OC(=O)N(R^{26})_2$; $SC(=O)OR^{27}$; $SC(=O)SR^{27}$; $S(O)_2OR^{26}$; $S(O)_2N(R^{26})_2$; $OS(O)_2R^{27}$; $N(R^{26})S(O)_2R^{27}$; or phenyl, phenoxy, benzyl, benzyloxy, phenylsulfonyl, phenylethynyl or pyridinylethynyl, each optionally

substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

each R^{13} is independently H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; or phenyl optionally substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

R^{14} is H; halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; or C_3-C_6 cycloalkyl;

each R^{15} is independently H; C_1-C_3 alkyl; C_3-C_6 cycloalkyl; or phenyl or benzyl, each optionally substituted on the phenyl ring with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano; or

when Y is $-CHR^{15}N(R^{15})C(=O)N(R^{15})-$, the two R^{15} attached to nitrogen atoms on said group can be taken together as $-(CH_2)_s-$; or

when Y is $-CHR^{15}O-N=C(R^7)NR^{15}-$, R^7 and the adjacently attached R^{15} can be taken together as $-CH_2-(CH_2)_s-$; $-O-(CH_2)_s-$; $-S-(CH_2)_s-$; or $-N(C_1$-C_3 alkyl$)-(CH_2)_s-$; with the directionality of said linkage defined such that the moiety depicted on the left side of the linkage is bonded to the carbon and the moiety on the right side of the linkage is bonded to the nitrogen;

R^{16}, R^{17}, and R^{18} are each independently H; C_1-C_3 alkyl; C_3-C_6 cycloalkyl; or phenyl optionally substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

R^{19}, R^{20}, R^{21}, R^{22}, R^{23}, and R^{24} are each independently C_1-C_6 alkyl; C_1-C_4 haloalkyl; C_2-C_6 alkenyl; C_1-C_4 alkoxy; or phenyl;

each R^{25} is independently C_1-C_4 alkyl; C_1-C_4 haloalkyl; C_2-C_4 alkenyl; C_1-C_4 alkoxy; or phenyl;

each R^{26} is independently H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; or phenyl or benzyl, each optionally substituted on the phenyl ring with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

each R^{27} is independently C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; or phenyl or benzyl, each optionally substituted on the phenyl ring with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

n and p are each independently 0, 1 or 2;

r is 0 or 1; and

s is 2 or 3;

provided that

(i) when G is G-1 or G-4 and Z is C_1-C_{10} alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10}, then R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12};

(ii) when G is G-2, X is H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 cycloalkyl or NH_2 and Z is C_1-C_{10} alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10}, then R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12};

(iii) when G is G-1 and A is N, then Y is other than -O-, -$S(O)_n$-, -NR^{15}-, -CHR^6-, -CHR^6CHR^6-, -CR^6=CR^6-, -C≡C-, and a direct bond;

(iv) when G is G-1, A is N and W is S, NH or N(C_1-C_6 alkyl), then R^2 is other than H;

(v) when G is G-3, B is NR^5, X is H, NH_2, NHR^1 or N(C_1-C_6 alkyl)R^1 and Z is C_1-C_{10} alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10}, then R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12}; and

(vi) when G is G-3, B is NR^5, X is NH_2, NHR^1 or N(C_1-C_6 alkyl)R^1 and Y is O or a direct bond, then Z is other than phenyl substituted with R^9 and optionally substituted with one or more R^{10}.

DETAILS OF THE INVENTION

In the above recitations, the term "alkyl", used either alone or in compound words such as "alkylthio" or "haloalkyl" includes straight-chain or branched alkyl, such as, methyl, ethyl, *n*-propyl, *i*-propyl, or the different butyl, pentyl or hexyl isomers. The term "1-2 CH_3" indicates that the substituent can be methyl or, when there is a hydrogen

attached to the same atom, the substituent and said hydrogen can both be methyl. The term "1-2 alkyl" indicates that one or two of the available positions for that substituent may be alkyl which are independently selected. "Alkenyl" includes straight-chain or branched alkenes such as vinyl, 1-propenyl, 2-propenyl, and the different butenyl, pentenyl and hexenyl isomers. "Alkenyl" also includes polyenes such as 1,2-propadienyl and 2,4-hexadienyl. "Alkynyl" includes straight-chain or branched alkynes such as ethynyl, 1-propynyl, 2-propynyl and the different butynyl, pentynyl and hexynyl isomers. "Alkynyl" can also include moieties comprised of multiple triple bonds such as 2,5-hexadiynyl. "Alkylene" denotes a straight-chain alkanediyl. Examples of "alkylene" include $CH_2CH_2CH_2$, $CH_2CH_2CH_2CH_2$, $CH_2CH_2CH_2CH_2CH_2$. "Alkenylene" denotes a straight-chain alkenediyl containing one olefinic bond. Examples of "alkenylene" include $CH_2CH{=}CH$, $CH_2CH_2CH{=}CH$, $CH_2CH{=}CHCH_2$ and $CH_2CH{=}CHCH_2CH_2$. "Alkoxy" includes, for example, methoxy, ethoxy, *n*-propyloxy, isopropyloxy and the different butoxy, pentoxy and hexyloxy isomers. The term "1-3 alkoxy" indicates that one to three of the available positions for that substituent may be alkoxy which are independently selected; and the term "1-2 alkoxy" is defined analogously. "Alkoxyalkyl" denotes alkoxy substitution on alkyl. Examples of "alkoxyalkyl" include CH_3OCH_2, $CH_3OCH_2CH_2$, $CH_3CH_2OCH_2$, $CH_3CH_2CH_2CH_2OCH_2$ and $CH_3CH_2OCH_2CH_2$. "Alkoxyalkoxy" denotes alkoxy substitution on alkoxy. "Alkenyloxy" includes straight-chain or branched alkenyloxy moieties. Examples of "alkenyloxy" include $H_2C{=}CHCH_2O$, $(CH_3)_2C{=}CHCH_2O$, $(CH_3)CH{=}CHCH_2O$, $(CH_3)CH{=}C(CH_3)CH_2O$ and $CH_2{=}CHCH_2CH_2O$. "Alkynyloxy" includes straight-chain or branched alkynyloxy moieties. Examples of "alkynyloxy" include $HC{\equiv}CCH_2O$, $CH_3C{\equiv}CCH_2O$ and $CH_3C{\equiv}CCH_2CH_2O$. "Alkylthio" includes branched or straight-chain alkylthio moieties such as methylthio, ethylthio, and the different propylthio, butylthio, pentylthio and hexylthio isomers. "Alkylthioalkyl" denotes alkylthio substitution on alkyl. Examples of "alkylthioalkyl" include CH_3SCH_2, $CH_3SCH_2CH_2$, $CH_3CH_2SCH_2$, $CH_3CH_2CH_2CH_2SCH_2$ and $CH_3CH_2SCH_2CH_2$. "Alkylthioalkylthio" denotes alkylthio substitution on alkylthio. Analogously, "alkylthioalkoxy" denotes alkylthio substitution on alkoxy. "Alkylsulfinyl" includes both enantiomers of an alkylsulfinyl group. Examples of "alkylsulfinyl" include $CH_3S(O)$, $CH_3CH_2S(O)$, $CH_3CH_2CH_2S(O)$, $(CH_3)_2CHS(O)$ and the different butylsulfinyl, pentylsulfinyl and hexylsulfinyl isomers. Examples of "alkylsulfonyl" include $CH_3S(O)_2$, $CH_3CH_2S(O)_2$, $CH_3CH_2CH_2S(O)_2$, $(CH_3)_2CHS(O)_2$ and the different butylsulfonyl, pentylsulfonyl and hexylsulfonyl isomers. "Alkenylthio", "alkenylsulfinyl", "alkenylsulfonyl", "alkynylthio", "alkynylsulfinyl", "alkynylsulfonyl", and the like, are defined analogously to the above

examples. "Cycloalkyl" includes, for example, cyclopropyl, cyclobutyl, cyclopentyl, and cyclohexyl. The term "cycloalkoxy" includes the same groups linked through an oxygen atom such as cyclopentyloxy and cyclohexyloxy. "Cycloalkenyl" includes groups such as cyclopentenyl and cyclohexenyl as well as groups with more than one double bond such as 1,3- and 1,4-cyclohexadienyl. "Trialkylsilylalkoxyalkoxy" denotes trialkylsilylalkoxy substitution on alkoxy. Examples of "trialkylsilylalkoxyalkoxy" includes, for example, $(CH_3)_3SiCH_2CH_2OCH_2O$. The term "aromatic carbocyclic ring system" includes fully aromatic carbocycles and carbocycles in which at least one ring of a polycyclic ring system is aromatic (where aromatic indicates that the Hückel rule is satisfied). The term "nonaromatic carbocyclic ring system" denotes fully saturated carbocycles as well as partially or fully unsaturated carbocycles where the Hückel rule is not satisfied by any of the rings in the ring system. The term "aromatic heterocyclic ring system" includes fully aromatic heterocycles and heterocycles in which at least one ring of a polycyclic ring system is aromatic (where aromatic indicates that the Hückel rule is satisfied). The term "nonaromatic heterocyclic ring system" denotes fully saturated heterocycles as well as partially or fully unsaturated heterocycles where the Hückel rule is not satisfied by any of the rings in the ring system. The heterocyclic ring systems can be attached through any available carbon or nitrogen by replacement of a hydrogen on said carbon or nitrogen. One skilled in the art will appreciate that not all nitrogen containing heterocycles can form *N*-oxides since the nitrogen requires an available lone pair for oxidation to the oxide; one skilled in the art will recognize those nitrogen containing heterocycles which can form *N*-oxides.

The term "halogen", either alone or in compound words such as "haloalkyl", includes fluorine, chlorine, bromine or iodine. The term "1-2 halogen" indicates that one or two of the available positions for that substituent may be halogen which are independently selected. Further, when used in compound words such as "haloalkyl", said alkyl may be partially or fully substituted with halogen atoms which may be the same or different. Examples of "haloalkyl" include F_3C, $ClCH_2$, CF_3CH_2 and CF_3CCl_2. The terms "haloalkenyl", "haloalkynyl", "haloalkoxy", and the like, are defined analogously to the term "haloalkyl". Examples of "haloalkenyl" include $(Cl)_2C{=}CHCH_2$ and $CF_3CH_2CH{=}CHCH_2$. Examples of "haloalkynyl" include $HC{\equiv}CCHCl$, $CF_3C{\equiv}C$, $CCl_3C{\equiv}C$ and $FCH_2C{\equiv}CCH_2$. Examples of "haloalkoxy" include CF_3O, CCl_3CH_2O, $HCF_2CH_2CH_2O$ and CF_3CH_2O. Examples of "haloalkylthio" include CCl_3S, CF_3S, CCl_3CH_2S and $ClCH_2CH_2CH_2S$. Examples of "haloalkylsulfinyl" include $CF_3S(O)$, $CCl_3S(O)$, $CF_3CH_2S(O)$ and $CF_3CF_2S(O)$. Examples of "haloalkylsulfonyl" include $CF_3S(O)_2$, $CCl_3S(O)_2$, $CF_3CH_2S(O)_2$ and $CF_3CF_2S(O)_2$.

The total number of carbon atoms in a substituent group is indicated by the "C_i-C_j" prefix where i and j are numbers from 1 to 10. For example, C_1-C_3 alkylsulfonyl designates methylsulfonyl through propylsulfonyl. Examples of "alkylcarbonyl" include $C(O)CH_3$, $C(O)CH_2CH_2CH_3$ and $C(O)CH(CH_3)_2$. Examples of "alkoxycarbonyl" include $CH_3OC(=O)$, $CH_3CH_2OC(=O)$, $CH_3CH_2CH_2OC(=O)$, $(CH_3)_2CHOC(=O)$ and the different butoxy- or pentoxycarbonyl isomers. In the above recitations, when a compound of Formula I is comprised of one or more heterocyclic rings, all substituents are attached to these rings through any available carbon or nitrogen by replacement of a hydrogen on said carbon or nitrogen.

When a group contains a substituent which can be hydrogen, for example R^9 or R^{13}, then, when this substituent is taken as hydrogen, it is recognized that this is equivalent to said group being unsubstituted.

Compounds of this invention can exist as one or more stereoisomers. The various stereoisomers include enantiomers, diastereomers, atropisomers and geometric isomers. One skilled in the art will appreciate that one stereoisomer may be more active and/or may exhibit beneficial effects when enriched relative to the other stereoisomer(s) or when separated from the other stereoisomer(s). Additionally, the skilled artisan knows how to separate, enrich, and/or to selectively prepare said stereoisomers. Accordingly, the present invention comprises compounds selected from Formula I, *N*-oxides and agriculturally suitable salts thereof. The compounds of the invention may be present as a mixture of stereoisomers, individual stereoisomers, or as an optically active form.

The salts of the compounds of the invention include acid-addition salts with inorganic or organic acids such as hydrobromic, hydrochloric, nitric, phosphoric, sulfuric, acetic, butyric, fumaric, lactic, maleic, malonic, oxalic, propionic, salicylic, tartaric, 4-toluenesulfonic or valeric acids. The salts of the compounds of the invention also include those formed with organic bases (e.g., pyridine, ammonia, or triethylamine) or inorganic bases (e.g., hydrides, hydroxides, or carbonates of sodium, potassium, lithium, calcium, magnesium or barium) when the compound contains an acidic group such as a phenol.

Preferred compounds for reasons of better activity and/or ease of synthesis are:

Preferred 1. Compounds of Formula I above, and *N*-oxides and agriculturally suitable salts thereof, wherein:

E is selected from the group 1,2-phenylene; 1,5-, 1,6-, 1,7-, 1,8-, 2,6-, 2,7-, 1,2-, and 2,3-naphthalenediyl; 1*H*-pyrrole-1,2-, 2,3- and 3,4-diyl; 2,3- and 3,4-furandiyl; 2,3- and 3,4-thiophenediyl; 1*H*-pyrazole-1,5-, 3,4- and 4,5-diyl; 1*H*-imidazole-1,2-, 4,5- and

1,5-diyl; 3,4- and 4,5-isoxazolediyl; 4,5-oxazolediyl; 3,4- and 4,5-isothiazolediyl; 4,5-thiazolediyl; 1*H*-1,2,3-triazole-1,5- and 4,5-diyl; 2*H*-1,2,3-triazole-4,5-diyl; 1*H*-1,2,4-triazole-1,5-diyl; 4*H*-1,2,4-triazole-3,4-diyl; 1,2,3-oxadiazole-4,5-diyl; 1,2,5-oxadiazole-3,4-diyl; 1,2,3-thiadiazole-4,5-diyl; 1,2,5-thiadiazole-3,4-diyl; 1*H*-tetrazole-1,5-diyl; 2,3- and 3,4-pyridinediyl; 3,4- and 4,5-pyridazinediyl; 4,5-pyrimidinediyl; 2,3-pyrazinediyl; 1,2,3-triazine-4,5-diyl; 1,2,4-triazine-5,6-diyl; 1*H*-indole-1,4-, 1,5-, 1,6-, 1,7-, 2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 1,2-, 2,3-, 4,5-, 5,6- and 6,7-diyl; 2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 2,3-, 4,5-, 5,6- and 6,7-benzofurandiyl; benzo[*b*]thiophene-2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 2,3-, 4,5-, 5,6- and 6,7-diyl; 1*H*-indazole-1,4-, 1,5-, 1,6-, 1,7-, 3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-diyl; 1*H*-benzimidazole-1,4-, 1,5-, 1,6-, 1,7-, 2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-diyl; 1,2-benzisoxazole-3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-diyl; 2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-benzoxazolediyl; 1,2-benzisothiazole-3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-diyl; 2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-benzothiazolediyl; 2,5-, 2,6-, 2,7-, 2,8-, 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 2,3-, 3,4-, 5,6-, 6,7- and 7,8-quinolinediyl; 1,5-, 1,6-, 1,7-, 1,8-, 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 3,4-, 5,6-, 6,7- and 7,8-isoquinolinediyl; 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 3,4-, 5,6-, 6,7- and 7,8-cinnolinediyl; 1,5-, 1,6-, 1,7-, 1,8-, 5,6-, 6,7- and 7,8-phthalazinediyl; 2,5-, 2,6-, 2,7-, 2,8-, 4,5-, 4,6-, 4,7-, 4,8-, 5,6-, 6,7- and 7,8-quinazolinediyl; 2,5-, 2,6-, 2,7-, 2,8-, 2,3-, 5,6-, 6,7- and 7,8-quinoxalinediyl; 1,8,-naphthyridine-2,5-, 2,6-, 2,7-, 3,5-, 3,6-, 4,5-, 2,3- and 3,4-diyl; 2,6-, 2,7-, 4,6-, 4,7-, 6,7-pteridinediyl; pyrazolo[5,1-*b*]thiazole-2,6-, 2,7-, 3,6-, 3,7-, 2,3- and 6,7-diyl; thiazolo[2,3-*c*]-1,2,4-triazole-2,5-, 2,6-, 5,6-diyl; 2-oxo-1,3-benzodioxole-4,5- and 5,6-diyl; 1,3-dioxo-1*H*-isoindole-2,4-, 2,5-, 4,5- and 5,6-diyl; 2-oxo-2*H*-1-benzopyran-3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 5,6-, 6,7- and 7,8-diyl; [1,2,4]triazolo[1,5-*a*]pyridine-2,5-, 2,6-, 2,7-, 2,8-, 5,6-, 6,7- and 7,8-diyl; 3,4-dihydro-2,4-dioxo-2*H*-1,3-benzoxazine-3,5-, 3,6-, 3,7-, 3,8-,

5,6-, 6,7- and 7,8-diyl; 2,3-dihydro-2-oxo-3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-benzofurandiyl; thieno[3,2-*d*]thiazole-2,5-, 2,6-, and 5,6-diyl; 5,6,7,8-tetrahydro-2,5-, 2,6-, 2,7-, 2,8-, 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 2,3- and 3,4-quinolinediyl; 2,3-dihydro-1,1,3-trioxo-1,2-benzisothiazole-2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-diyl; 1,3-benzodioxole-2,4-, 2,5-, 4,5- and 5,6-diyl; 2,3-dihydro-2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-benzofurandiyl; 2,3-dihydro-1,4-benzodioxin-2,5-, 2,6-, 2,7-, 2,8-, 5,6- and 6,7-diyl; and 5,6,7,8-tetrahydro-4*H*-cyclohepta[*b*]thiophene-2,4-, 2,5-, 2,6-, 2,7-, 2,8-, 3,4-, 3,5-, 3,6-, 3,7-, 3,8-, and 2,3-diyl; each aromatic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

W is O;

R^1 is C_1-C_3 alkyl or C_1-C_3 haloalkyl;

R^2 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; or C_3-C_6 cycloalkyl;

R^3 and R^4 are each independently halogen; cyano; nitro; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_1-C_6 alkylthio; C_1-C_6 alkylsulfonyl; C_2-C_6 alkylcarbonyl; C_2-C_6 alkoxycarbonyl; (C_1-C_4 alkyl)NHC(O); (C_1-C_4 alkyl)$_2$NC(O); benzoyl; or phenylsulfonyl;

Y is -O-; -CH=CH-; -C≡C-; $-CH_2O-$; $-OCH_2-$; $-CH_2S(O)_n-$; $-CH_2O-N=C(R^7)-$; $-(R^7)C=N-OCH(R^{15})-$; $-C(R^7)=N-O-$; $-CH_2OC(O)NH-$; $-CH_2S-C(R^7)=N-$; $-CH=CR^6-C(=W^1)-A^1-$; or a direct bond;

R^7 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 alkylthio; C_2-C_6 alkenyl; C_2-C_6 alkynyl; C_3-C_6 cycloalkyl; halogen; or cyano; or

when Y and an R^{10} are attached to adjacent atoms on Z and Y is $-CH_2O-N=C(R^7)-$, R^7 and said adjacently attached R^{10} can be taken together as $-(CH_2)_r-J-$ such that J is attached to Z;

Z is selected from the group C_1-C_{10} alkyl; C_3-C_8 cycloalkyl; phenyl; naphthalenyl; anthracenyl; phenanthrenyl; 1*H*-pyrrolyl; furanyl; thienyl; 1*H*-pyrazolyl; 1*H*-imidazolyl; isoxazolyl; oxazolyl; isothiazolyl; thiazolyl; 1*H*-1,2,3-triazolyl; 2*H*-1,2,3-triazolyl; 1*H*-1,2,4-triazolyl; 4*H*-1,2,4-triazolyl; 1,2,3-oxadiazolyl;

1,2,4-oxadiazolyl; 1,2,5-oxadiazolyl; 1,3,4-oxadiazolyl; 1,2,3-thiadiazolyl; 1,2,4-thiadiazolyl; 1,2,5-thiadiazolyl; 1,3,4-thiadiazolyl; 1*H*-tetrazolyl; 2*H*-tetrazolyl; pyridinyl; pyridazinyl; pyrimidinyl; pyrazinyl; 1,3,5-triazinyl; 1,2,4-triazinyl; 1,2,4,5-tetrazinyl; 1*H*-indolyl; benzofuranyl; benzo[*b*]thiophenyl; 1*H*-indazolyl; 1*H*-benzimidazolyl; benzoxazolyl; benzothiazolyl; quinolinyl; isoquinolinyl; cinnolinyl; phthalazinyl; quinazolinyl; quinoxalinyl; 1,8-naphthyridinyl; pteridinyl; 2,3-dihydro-1*H*-indenyl; 1,2,3,4-tetrahydronaphthalenyl; 6,7,8,9-tetrahydro-5*H*-benzocycloheptenyl; 5,6,7,8,9,10-hexahydrobenzocyclooctenyl; 2,3-dihydro-3-oxobenzofuranyl; 1,3-dihydro-1-oxoisobenzofuranyl; 2,3-dihydro-2-oxobenzofuranyl; 3,4-dihydro-4-oxo-2*H*-1-benzopyranyl; 3,4-dihydro-1-oxo-1*H*-2-benzopyranyl; 3,4-dihydro-3-oxo-1*H*-2-benzopyranyl; 3,4-dihydro-2-oxo-2*H*-1-benzopyranyl; 4-oxo-4*H*-1-benzopyranyl; 2-oxo-2*H*-1-benzopyranyl; 2,3,4,5-tetrahydro-5-oxo-1-benzoxepinyl; 2,3,4,5-tetrahydro-2-oxo-1-benzoxepinyl; 2,3-dihydro-1,3-dioxo-1*H*-isoindolyl; 1,2,3,4-tetrahydro-1,3-dioxoisoquinolinyl; 3,4-dihydro-2,4-dioxo-2*H*-1,3-benzoxazinyl; 2-oxo-1,3-benzodioxyl; 2,3-dihydro-1,1,3-trioxo-1,2-benzisothiazolyl; 9*H*-fluorenyl; azulenyl; and thiazolo[2,3-*c*]-1,2,4-triazolyl; each group substituted with R^9 and optionally substituted with one or more R^{10};

R^9 is H; 1-2 halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_1-C_6 alkylthio; cyano; CO_2(C_1-C_6 alkyl); NH(C_1-C_6 alkyl); N(C_1-C_6 alkyl)$_2$; $SiR^{22}R^{23}R^{24}$; or $GeR^{22}R^{23}R^{24}$; or R^9 is C_3-C_6 cycloalkyl, phenyl, phenoxy, pyridinyl, pyridinyloxy, pyrimidinyl, or pyrimidinyloxy, each optionally substituted with one of R^{11}, R^{12}, or both R^{11} and R^{12}; and

each R^{15} is independently H; C_1-C_3 alkyl; or C_3-C_6 cycloalkyl.

Preferred 2. Compounds of Preferred 1 wherein:

E is selected from the group 1,2-phenylene; 1,6-, 1,7-, 1,2-, and 2,3-naphthalenediyl; 2,3- and 3,4-furandiyl; 2,3- and 3,4-thiophenediyl; 2,3- and 3,4-pyridinediyl; 4,5-pyrimidinediyl; 2,4-, 2,7-, 3,5-, 2,3-, 4,5-, 5,6- and 6,7-benzofurandiyl; and benzo[*b*]thiophene-2,4-, 2,7-, 3,5-, 2,3-, 4,5-, 5,6- and 6,7-diyl; each aromatic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

Z is selected from the group phenyl; pyridinyl; pyrimidinyl; and naphthalenyl; each group substituted with R^9 and optionally substituted with one or more R^{10};

R^7 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 alkylthio; C_2-C_6 alkenyl; C_2-C_6 alkynyl; cyclopropyl; halogen; or cyano; or

when Y and an R^{10} are attached to adjacent atoms on Z and Y is $-CH_2O-N=C(R^7)-$, R^7 and said adjacently attached R^{10} can be taken together as $-(CH_2)_r-J-$ such that J is attached to Z;

J is $-CH_2-$ or $-CH_2CH_2-$; and

r is 1.

Preferred 3. Compounds of Preferred 2 wherein:

E is selected from the group 1,2-phenylene; 2,3- and 3,4-thiophenediyl; and 2,3- and 3,4-pyridinediyl; each aromatic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

B is O or NR^5;

X is C_1-C_3 alkyl; NHR^1; or $N(C_1$-C_3 alkyl)R^1;

R^1 is C_1-C_3 alkyl;

R^2 is H or C_1-C_2 alkyl;

Y is -O-; -CH=CH-; $-CH_2O-$; $-CH_2O-N=C(R^7)-$; $-(R^7)C=N-OCH(R^{15})-$; $-CH_2OC(=O)NH-$; $-CH_2S-C(R^7)=N-$; or $-CH=CR^6-C(=W^1)-A^1-$;

R^7 is H; C_1-C_3 alkyl; C_1-C_3 haloalkyl; C_1-C_3 alkoxy; C_1-C_3 alkylthio; or cyclopropyl; and

each R^{15} is independently H; C_1-C_3 alkyl; or cyclopropyl.

Preferred 4. Compounds of Preferred 3 wherein:

G is G-1; and

A is N.

Preferred 5. Compounds of Preferred 4 wherein:

R^2 is methyl.

Preferred 6. Compounds of Preferred 3 wherein:

G is G-2;

A is N; and

X is NHR^1 or $N(C_1\text{-}C_6$ alkyl)R^1.

Preferred 7. Compounds of Preferred 6 wherein:

R^1 is methyl; and

R^2 is methyl.

Most preferred are compounds of Preferred 3 selected from the group:

1,4-dihydro-1-methyl-4-[2-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-5*H*-tetrazol-5-one;

1,4-dihydro-1-methyl-4-[2-[[[[1-[3-(trimethylsilyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-5*H*-tetrazol-5-one;

2,4-dihydro-2-methyl-5-(methylamino)-4-[2-[[[[1-[3-(trimethylsilyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one; and

2,4-dihydro-2,5-dimethyl-4-[2-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one.

This invention also relates to fungicidal compositions comprising fungicidally effective amounts of the compounds of the invention and at least one of a surfactant, a solid diluent or a liquid diluent. The preferred compositions of the present invention are those which comprise the above preferred compounds.

This invention also relates to a method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or seedling, a fungicidally effective amount of the compounds of the invention (e.g., as a composition described herein). The preferred methods of use are those involving the above preferred compounds.

Of note are embodiments where G is G-1, G-2 or G-3; embodiments where X is $C_1\text{-}C_6$ alkyl, $C_1\text{-}C_6$ haloalkyl, $C_3\text{-}C_6$ cycloalkyl, cyano, NH_2, NHR^1 or $N(C_1\text{-}C_6$ alkyl)R^1; embodiments where R^2 is H, $C_1\text{-}C_6$ alkyl, $C_1\text{-}C_6$ haloalkyl, $C_2\text{-}C_6$ alkenyl, $C_2\text{-}C_6$ haloalkenyl, $C_2\text{-}C_6$ alkynyl, $C_2\text{-}C_6$ haloalkynyl, $C_3\text{-}C_6$ cycloalkyl, $C_2\text{-}C_4$ alkylcarbonyl or $C_2\text{-}C_4$ alkoxycarbonyl; embodiments where Y is -O-, $-S(O)_n$-, $-NR^{15}$-, -C(=O)-, $-CH(OR^{15})$-, $-CHR^6$-, $-CHR^6CHR^6$-, $-CR^6{=}CR^6$-, -C≡C-, $-CHR^{15}O$-, $-OCHR^{15}$-, $-CHR^{15}S(O)_n$-, $-S(O)_nCHR^{15}$-, $-CHR^{15}O\text{-}N{=}C(R^7)$-, $-(R^7)C{=}N\text{-}OCH(R^{15})$-, $-C(R^7){=}N\text{-}O$-, $-O\text{-}N{=}C(R^7)$-, $-CHR^{15}OC(=O)N(R^{15})$-,

$-CHR^{15}OC(=S)N(R^{15})-$, $-CHR^{15}O-N(R^{15})C(=O)N(R^{15})-$, $-CHR^{15}O-N(R^{15})C(=S)N(R^{15})-$, $-CHR^{15}O-N=C(R^7)NR^{15}-$, $-CHR^{15}O-N=C(R^7)OCH_2-$, $-CHR^{15}O-N=C(R^7)-N=N-$, $-CHR^{15}O-N=C(R^7)-C(=O)-$, $-CHR^{15}S-C(R^7)=N-$, $-C(R^7)=N-NR^{15}-$, $-CH=N-N=C(R^7)-$, $-CHR^{15}N(COCH_3)-N=C(R^7)-$, $-OC(=S)NR^{15}C(=O)-$, $-CHR^6-C(=W^1)-A^1-$, $-CHR^6CHR^6-C(=W^1)-A^1-$, $-CR^6=CR^6-C(=W^1)-A^1-$, $-C\equiv C-C(=W^1)-A^1-$, $-N=CR^6-C(=W^1)-A^1-$ or a direct bond; embodiments where R^7 is H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylthio, C_1-C_6 alkylsulfinyl, C_1-C_6 alkylsulfonyl, C_1-C_6 haloalkylthio, C_1-C_6 haloalkylsulfinyl, C_1-C_6 haloalkylsulfonyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl, C_2-C_4 alkoxycarbonyl, halogen, cyano or morpholinyl; embodiments where Z is other than C_3-C_8 cycloalkenyl and adamantyl each substituted with R^9 and optionally substituted with one or more R^{10}; embodiments where R^9 is H, 1-2 halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_3-C_6 alkenyloxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio, C_1-C_6 alkylsulfinyl, C_1-C_6 alkylsulfonyl, CO_2(C_1-C_6 alkyl), NH(C_1-C_6 alkyl), N(C_1-C_6 alkyl)$_2$, $-C(R^{18})=NOR^{17}$, cyano, nitro, SF_5, $SiR^{22}R^{23}R^{24}$, $GeR^{22}R^{23}R^{24}$, or phenyl, benzyl, benzoyl, phenoxy, pyridinyl, pyridinyloxy, thienyl, thienyloxy, furanyl, pyrimidinyl, or pyrimidinyloxy each optionally substituted with one of R^{11}, R^{12}, or both R^{11} and R^{12}; embodiments where each R^{10} is independently halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, nitro or cyano; embodiments where, when Y and an R^{10} are attached to adjacent atoms on Z and Y is $-CHR^{15}O-N=C(R^7)-$, $-O-N=C(R^7)-$, $-CH=N-N=C(R^7)-$ or $-CHR^{15}N(COCH_3)-N=C(R^7)-$, R^7 and said adjacently attached R^{10} are taken together as $-(CH_2)_r-J-$ such that J is attached to Z; embodiments where R^{11} and R^{12} are each independently halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_3-C_6 alkenyloxy, C_3-C_6 haloalkenyloxy, C_1-C_4 alkylthio, C_1-C_4 haloalkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 haloalkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylsulfonyl, C_3-C_6 alkenylthio, C_3-C_6 haloalkenylthio, nitro, cyano, SF_5, $Si(R^{25})_3$ or $Ge(R^{25})_3$; embodiments where R^{19}, R^{20}, R^{21}, R^{22}, R^{23}, and R^{24} are each independently C_1-C_6 alkyl, C_1-C_4 alkoxy or phenyl; embodiments where each R^{25} is independently C_1-C_4 alkyl or phenyl; and embodiments where R^3 and R^4 are each independently halogen, cyano, nitro, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_1-C_6 alkylsulfonyl, C_2-C_6 alkylcarbonyl, C_2-C_6 alkoxycarbonyl, (C_1-C_4 alkyl)NHC(O), (C_1-C_4 alkyl)$_2$NC(O), benzoyl or phenylsulfonyl.

The compounds of Formula I can be prepared by one or more of the following methods and variations as described in Schemes 1-35. The definitions of G, E, A, B, W, X, X^1, R^1-R^{27}, Y, Z^1, W^1, A^1-A^3, Z, Q, J, n, p, r and s in the compounds of Formulae 1-80 below are as defined above in the Summary of the Invention.

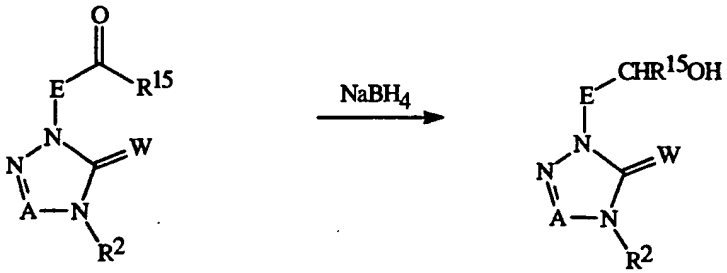
One skilled in the art will recognize that some compounds of Formula I can exist in one or more tautomeric forms. The present invention comprises all tautomeric forms of compounds of Formula I.

The compounds of Formula I can be prepared as described below in Procedures 1-4. Procedure 1 describes the syntheses of compounds of Formula I in which a final alkylation is used to prepare compounds of Formula I in which G = G-1, G-4 and G-5. Procedure 2) describes the syntheses of compounds of Formula I in which G = G-2 or G-3 and procedures for intermediates leading to compounds of Formula I in which G = G-4 and G-5. Procedures 3) and 4) describe syntheses that are applicable to compounds of Formula I in which G = G-1, G-2, G-3, G-4 and G-5, including the syntheses of the aryl moiety (E-Y-Z) before and after the constructions of G.

1) Synthesis of G-1, G-4 and G-5

Compounds of Formula 2 can be reduced to compounds of Formula 1 in protic solvents (Scheme 1) such as aliphatic alcohols or water, or aliphatic alcohol and water mixtures using metal hydrides such as sodium borohydride (for additional references using different conditions see Larock, *Comprehensive Organic Transformations*, R. C. Larock: New York, (1989), pp. 528-534).

Scheme 1

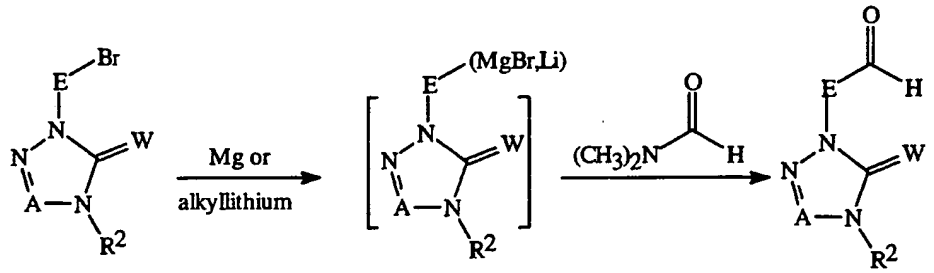


2 1

Compounds of Formula 2a can be prepared by reacting N,N-dimethylformamide with an aryl metal species of Formula 4 (Scheme 2) generated *in situ* by reacting an aryl halide of Formula 3 with metallic magnesium to form an aryl Grignard intermediate or with an alkyllithium to generate an aryllithium intermediate. The addition of

organometallic compounds to carbonyl groups is well known in the art (see March, *J. Advanced Organic Chemistry*; 4th ed., John Wiley: New York, (1992), pp. 920-929).

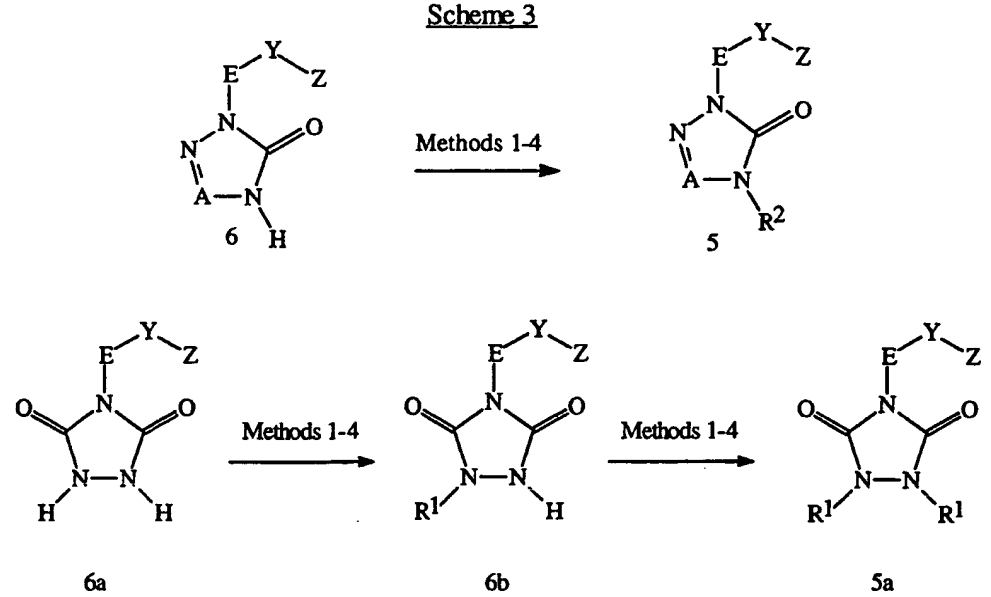
Scheme 2



3 4 2a

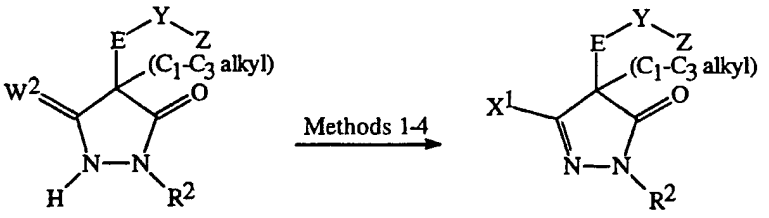
Compounds of Formula 5, 5a, and 5b can be prepared by treating compounds of Formula 6, 6a, 6b, and 6c with the appropriate alkyl transfer reagent in an inert solvent with or without additional acidic or basic reagents or other reagents (Scheme 3). Suitable solvents are selected from the group consisting of polar aprotic solvents such as acetonitrile, *N,N*-dimethylformamide or dimethyl sulfoxide; ethers such as tetrahydrofuran, dimethoxyethane, or diethyl ether; ketones such as acetone or 2-butanone; hydrocarbons such as toluene or benzene; and halocarbons such as dichloromethane or chloroform.

Scheme 3



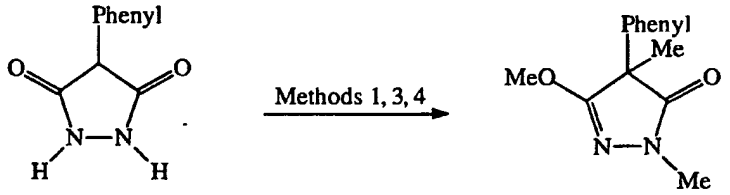
6 5

6a 6b 5a



W^2 = O, S

5b



6d

5c

Method 1: U-CH=N_2 (U = H or $(CH_3)_3Si$)

7

Method 2: Cl_3C(NH)OR^2 ; Lewis acid

8

Method 3: $(R^2)_3O^+BF_4^-$

9

Method 4: $(R^2)_2SO_4$; R^2OSO_2V; or R^2-hal;
optional base

(hal = F, Cl, Br, or I)
(V = C_1-C_6 alkyl, C_1-C_6 haloalkyl, or 4-CH_3-C_6H_4)

For example, compounds of Formula 5 can be prepared by the action of diazoalkane reagents of Formula 7 such as diazomethane (U = H) or trimethylsilyldiazomethane (U = $(CH_3)_3Si$) on carbonyl compounds of Formula 6 (Method 1). Use of trimethylsilyldiazomethane requires a protic cosolvent such as methanol. For examples of these procedures, see *Chem. Pharm. Bull.*, (1984), *32*, 3759.

As indicated in Method 2, compounds of Formula 5 can also be prepared by contacting carbonyl compounds of Formula 6 with alkyl trichloroacetimidates of Formula 8 and a Lewis acid catalyst. Suitable Lewis acids include trimethylsilyl triflate and tetrafluoroboric acid. The alkyl trichloroacetimidates can be prepared from the

appropriate alcohol and trichloroacetonitrile as described in the literature (J. Danklmaier and H. Hönig, *Synth. Commun.*, (1990), *20*, 203).

Compounds of Formula 5 can also be prepared from compounds of Formula 6 by treatment with a trialkyloxonium tetrafluoroborate (i.e. Meerwein's salt) of Formula 9 (Method 3). The use of trialkyloxonium salts as powerful alkylating agents is well known in the art (see U. Schöllkopf, U. Groth, C. Deng, *Angew. Chem., Int. Ed. Engl.*, (1981), *20*, 798).

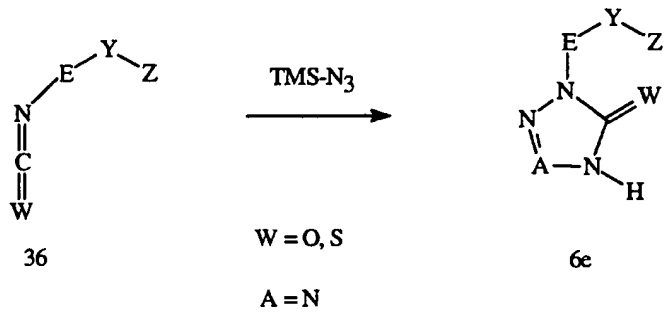
Other alkylating agents which can convert carbonyl compounds of Formula 6 to compounds of Formula 5 are dialkyl sulfates such as dimethyl sulfate, haloalkyl sulfonates such as methyl trifluoromethanesulfonate, and alkyl halides such as iodomethane and propargyl bromide (Method 4). These alkylations can be conducted with or without additional base. Appropriate bases include alkali metal alkoxides such as potassium *tert*-butoxide, inorganic bases such as sodium hydride and potassium carbonate, or tertiary amines such as triethylamine, pyridine, 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU), and triethylenediamine. See R. E. Benson, T. L. Cairns, *J. Am. Chem. Soc.*, (1948), *70*, 2115 for alkylation examples using agents of this type.

Two sequential applications of Methods 1-4 to compounds of Formula 6a can be used to prepare compounds of Formula 5a, via compounds of Formula 6b. When compounds of Formula 5a have equivalent R^1 groups, they can be prepared by reacting compounds of Formula 6a with two equivalents of the appropriate alkylating agents according to Methods 1-4.

Compounds of Formula 5b can be prepared from compounds of Formula 6c by appropriate applications of Methods 1-4. See G. Zvilichovsky, M. David, *J. Heterocyclic Chem.*, (1988) *25*, 1307 for alkylation examples applied to compound 6d, leading to, among others, compound 5c (not a compound of the present invention).

Compounds of Formula 6e can be synthesized as outlined in Scheme 4. An isocyanate or isothiocyanate (Formula 36) as prepared in Scheme 20 below is reacted with trimethylsilyl azide (TMS-azide) with or without solvent followed by contacting the crude product with water. For examples of these and other procedures to effect this kind of transformation, see O. Tsuge, et al., *J. Org. Chem.*, *45*, 5130 (1980).

Scheme 4

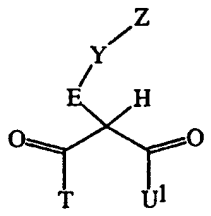


36 6e

2) Syntheses of G-2 and G-3, and Intermediates leading to G-4 and G-5

Compounds of Formula 10 or 10a (compounds of Formula I wherein G = G-3 and W = O can be prepared by condensation of malonate derivatives (U^1 = T) or ß-keto esters (U^1 = C_1-C_6 alkyl, C_1-C_6 haloalkyl, or C_3-C_6 cycloalkyl), respectively, of Formula 11 with an ambident nucleophile of Formula 12 (Scheme 5). The nucleophiles of Formula 12 are *N*-substituted hydroxylamines (HO-NHR^2) and substituted hydrazines (HN(R^5)-NHR^2). Compounds of Formula 6c can be prepared from compounds of Formula 11a (when U^1 = T) by reaction with an ambident nucleophile of Formula 12a. Compounds of Formula 10b (compounds of Formula I, wherein G = G-5) can be prepared from compounds of Formula 11a (U^1 = C_1-C_6 alkyl, C_1-C_6 haloalkyl, or C_3-C_6 cycloalkyl). Examples of nucleophiles of Formulae 12 and 12a are *N*-methylhydroxylamine and methylhydrazine. Compounds of Formula 11 and 11a can be prepared by methods described hereinafter. The esters of Formula 11 can also be activated by first hydrolyzing the ester to form the corresponding carboxylic acid, and then converting the acid into the acid chloride (T = Cl) using thionyl chloride or oxalyl chloride, or into the acyl imidazole (T = 1-imidazolyl) by treating with 1,1'-carbonyldiimidazole. In cases where U^1 equals alkyl in Formula 11 the carbonyl may need protecting. For examples of this type of chemistry, see B. Ruhland and G. Leclerc, *J. Heterocyclic Chem.*, *26*, 469 (1989).

Scheme 5

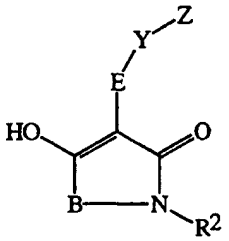


11

HB-NHR^2

12

(when U^1 = T)

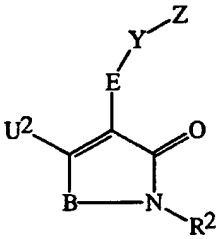


10

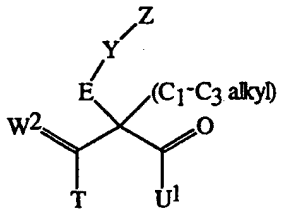
HB-NHR^2

12

(when U^1 is not T)



10a



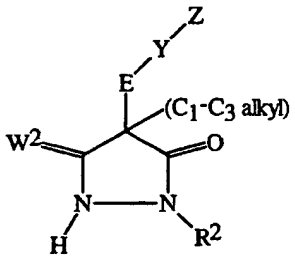
11a

W^2 = O, S

H_2NNHR^2

12a

(when U^1 = T)



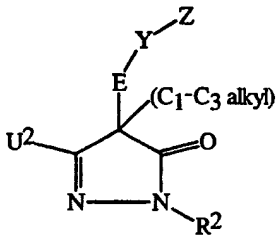
6c

H_2NNHR^2

12a

(when U^1 is not T)

and W^2 = O



10b

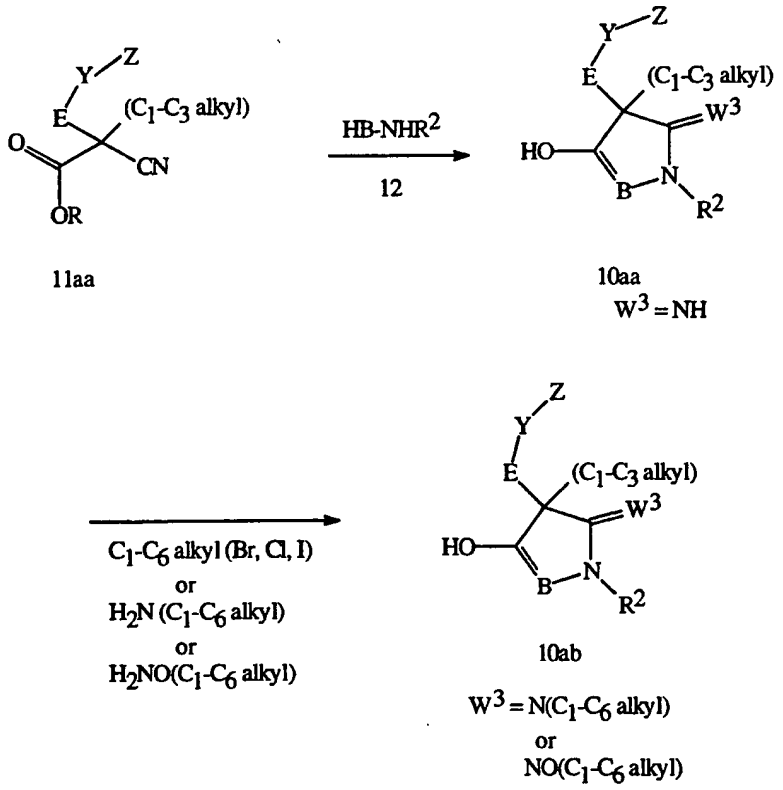
T = O(C_1-C_4 alkyl), Cl, 1-imidazolyl

U^1 = T, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 cycloalkyl

U^2 = C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 cycloalkyl

Compounds of Formula 10aa can be prepared by reaction of nitrile esters of Formula 11aa with ambident nucleophiles of Formula 12 (Scheme 5a). Alkylation of 10aa with alkyl halides in the presence of base provides compounds of Formula 10ab. Alternatively, treatment of 10aa with alkylamines or alkoxyamines provides compounds of Formula 10ab.

Scheme 5a



11aa

10aa
$W^3 = NH$

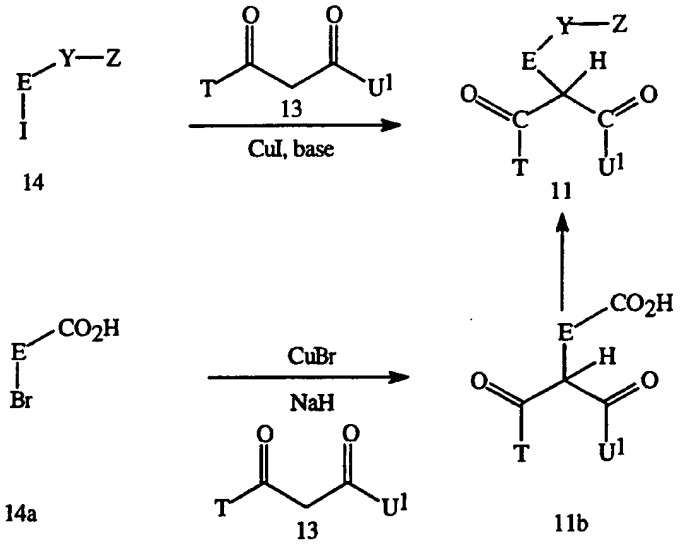
10ab
$W^3 = N(C_1\text{-}C_6 \text{ alkyl})$
or
$NO(C_1\text{-}C_6 \text{ alkyl})$

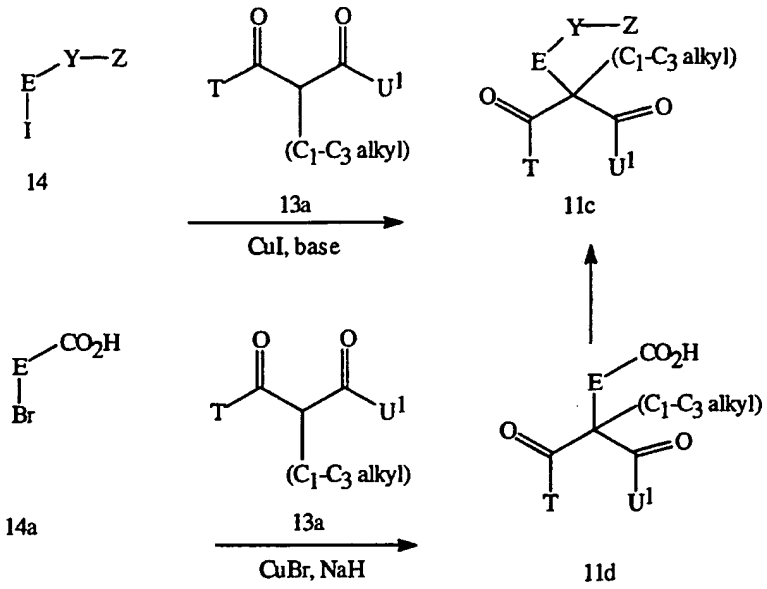
Esters of Formula 11 or 11c can be prepared from copper (I)-catalyzed reaction of compounds of Formula 13 or 13a with substituted aryl halides of Formula 14 according to methods adapted from A. Osuka, T. Kobayashi and H. Suzuki, *Synthesis*, (1983), 67 and M. S. Malamas, T. C. Hohman, and J. Millen, *J. Med. Chem.*, (1994), *37*, 2043-2058, and illustrated in Scheme 6. Procedures to prepare compounds of Formula 14 are described below (see Scheme 35).

Esters of Formula 11 or 11c can also be prepared from compounds of Formula 11d after modification of the carboxylic acid functional group to the appropriate Y and Z group. A copper (I)-catalyzed coupling of compounds of Formula 13 or 13a with *ortho*-bromocarboxylic acids of Formula 14a (see A. Bruggink, A. McKillop,

Tetrahedron, (1975), *31*, 2607) can be used to prepare compounds of Formula 11b or 11d as shown in Scheme 6. Methods to prepare compounds of Formula 14a are common in the art (see P. Beak, V. Snieckus, *Acc. Chem. Res.*, (1982), *15*, 306 and *Org. React.*, (1979), *26*, 1 and references therein).

Scheme 6



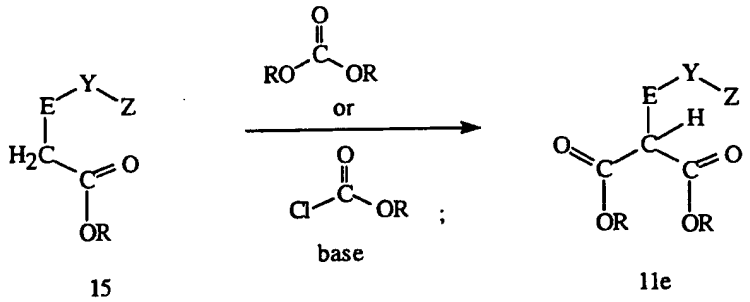


T = O(C$_1$-C$_4$ alkyl), Cl, 1-imidazolyl

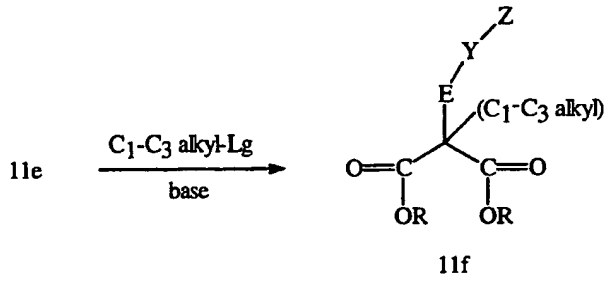
U^1= T, C$_1$-C$_6$ alkyl, C$_1$-C$_6$ haloalkyl

Additionally, the malonate esters of Formula 11e can be prepared by treating aryl acetic acid esters of Formula 15 with a dialkyl carbonate or alkyl chloroformate in the presence of a suitable base such as, but not limited to, sodium metal or sodium hydride (Scheme 7). For example, see *J. Am. Chem. Soc.*, (1928), *50*, 2758. Compounds of Formula 11f can be prepared from compounds of Formula 11e by alkylation with a suitable alkylating agent in an inert solvent. Suitable alkylating agents include dialkyl sulfates such as dimethyl sulfate, haloalkyl sulfonates such as methyl trifluoromethanesulfonate, and alkyl halides such as iodomethane. These alkylations can be conducted with or without additional base. Appropriate bases include alkali metal alkoxides such as potassium *tert*-butoxide, inorganic bases such as sodium hydride and alkali metal amides such as lithium diisopropylamide. Suitable solvents include polar aprotic solvents such as *N,N*-dimethylformamide or ethers such as tetrahydrofuran, dimethoxyethane, or diethyl ether. Alkylations of this type are well known in the art (see March, J. *Advanced Organic Chemistry*; 4th ed., John Wiley: New York, (1992), p 412, and references therein).

Scheme 7



R = C_1-C_4 alkyl



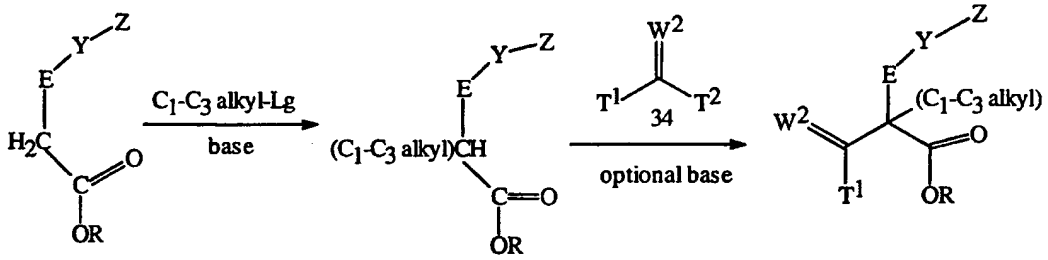
Lg = Br, Cl, I, OSO_2CH_3, OSO_2(4-Me-Ph), OSO_2CF_3

Alternatively, esters of Formula 15 can be alkylated to provide esters of Formula 15a by alkylation with a suitable alkylating agent in an inert solvent (Scheme 7a). Suitable alkylating agents include dialkyl sulfates such as dimethyl sulfate, haloalkyl sulfonates such as methyl trifluoromethanesulfonate, and alkyl halides such as iodomethane. These alkylations can be conducted with or without additional base. Appropriate bases include alkali metal alkoxides such as potassium *tert*-butoxide, inorganic bases such as sodium hydride and alkali metal amides such as lithium diisopropylamide. Suitable solvents include polar aprotic solvents such as *N,N*-dimethylformamide or ethers such as tetrahydrofuran, dimethoxyethane, or diethyl ether. Alkylations of this type are well known in the art (see March, J. *Advanced Organic Chemistry*; 4th ed., John Wiley: New York, (1992), p 416-418, and references therein).

Esters of Formula 15a can be treated with a carbonylating agent of Formula 34 to provide compounds of Formula 11g. The carbonylating agents of Formula 34 are carbonyl or thiocarbonyl transfer reagents such as phosgene, thiophosgene, diphosgene ($ClC(=O)OCCl_3$), triphosgene ($Cl_3COC(=O)OCCl_3$), *N,N'*-carbonyldiimidazole,

N,N'-thiocarbonyldiimidazole, and 1,1'-carbonyldi(1,2,4-triazole). Alternatively, the compounds of Formula 34 can be alkyl chloroformates or dialkyl carbonates. Some of these carbonylating reactions may require the addition of a base to effect reaction. Appropriate bases include alkali metal alkoxides such as potassium *tert*-butoxide, inorganic bases such as sodium hydride and potassium carbonate, tertiary amines such as triethylamine and triethylenediamine, pyridine, or 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU). Suitable solvents include polar aprotic solvents such as acetonitrile, dimethylformamide, or dimethyl sulfoxide; ethers such as tetrahydrofuran, dimethoxyethane, or diethyl ether; ketones such as acetone or 2-butanone; hydrocarbons such as toluene or benzene; or halocarbons such as dichloromethane or chloroform. Compounds of Formula 6c can be prepared from compounds of Formula 11g by reaction with an ambident nucleophile of Formula 12a. An example of nucleophiles of Formula 12a is methylhydrazine.

Scheme 7a



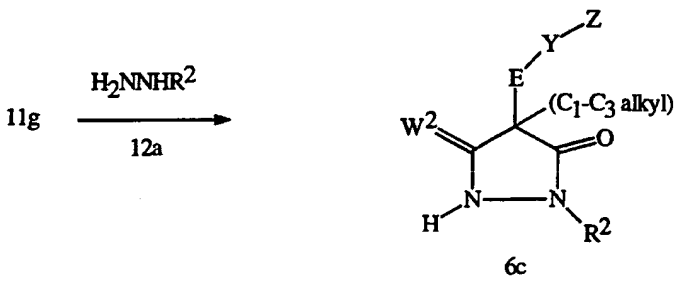
15 15a 11g

R = (C_1-C_4 alkyl)

Lg = Br, Cl, I, OSO_2CH_3, OSO_2(4-Me-Ph), OSO_2CF_3

T^1 and T^2 are independently Cl, $OCCl_3$, O(C_1-C_4 alkyl), 1-imidazolyl, 1,2,4-triazolyl

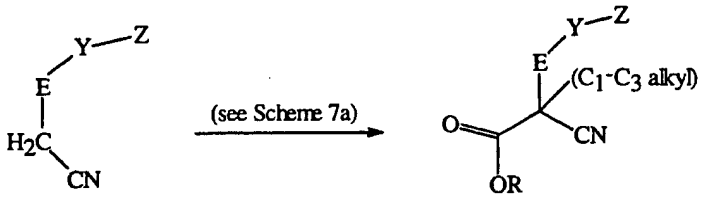
W^2 = O, S



6c

Nitrile esters of Formula 11aa (Scheme 7b) can be prepared by reacting compounds of Formula 16 under similar conditions outlined in Scheme 7a.

Scheme 7b

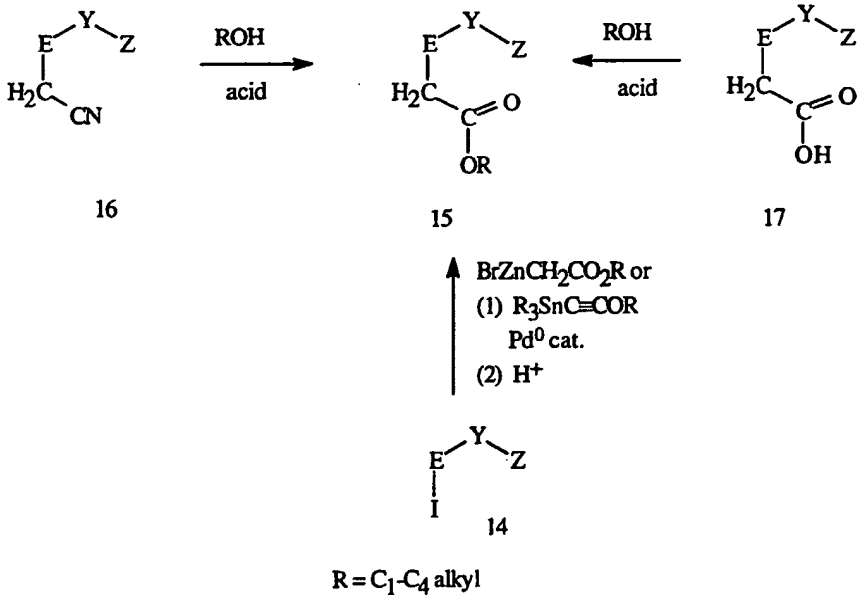


16 11aa

Esters of Formula 15 can be prepared from acid-catalyzed alcoholysis of aryl acetonitriles of Formula 16 or esterification of aryl acetic acids of Formula 17 as illustrated in Scheme 8 (see *Org. Synth., Coll. Vol. I*, (1941), 270).

Additionally, esters of Formula 15 can be prepared by palladium (0)-catalyzed cross coupling reaction of aryl iodides of Formula 14 with a Reformatsky reagent or an alkoxy(trialkylstannyl)acetylene followed by hydration (Scheme 8). For example, see T. Sakamoto, A. Yasuhara, Y. Kondo, H. Yamanaka, *Synlett.*, (1992), 502, and J. F. Fauvarque, A. Jutard, *J. Organometal. Chem.*, (1977), *132*, C17.

Scheme 8

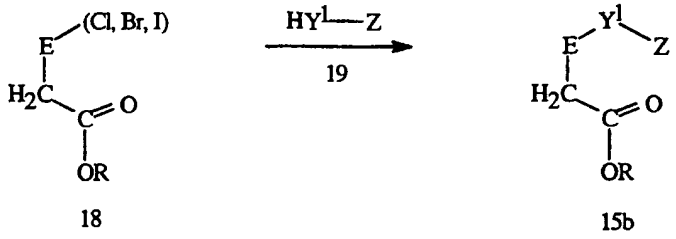


16 15 17 14

R = C_1-C_4 alkyl

Aryl acetic acid esters of Formula 15b can also be prepared by copper (I)-catalyzed condensation of aryl halides of Formula 18 with compounds of Formula 19 as described in EP-A-307,103 and illustrated below in Scheme 9.

Scheme 9



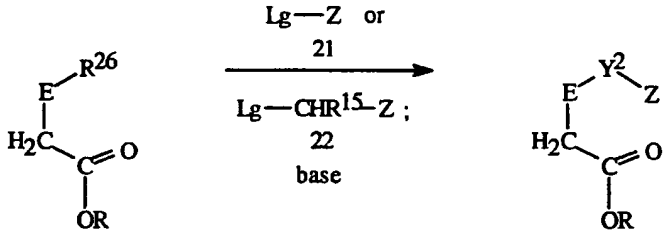
18 15b

R = C_1-C_4 alkyl

Y^1 = O, S, $OCHR^{15}$, $SCHR^{15}$, O-N=C(R^7), NR^{15}

Some esters of Formula 15 (Formula 15c) can also be prepared by forming the Y^2 bridge using conventional nucleophilic substitution chemistry (Scheme 10). Displacement of an appropriate leaving group (Lg) in electrophiles of Formula 21 or 22 with a nucleophilic ester of Formula 20 affords compounds of Formula 15c. A base, for example sodium hydride, is used to generate the corresponding alkoxide or thioalkoxide of the compound of Formula 20.

Scheme 10



20 15c

R = C_1-C_4 alkyl

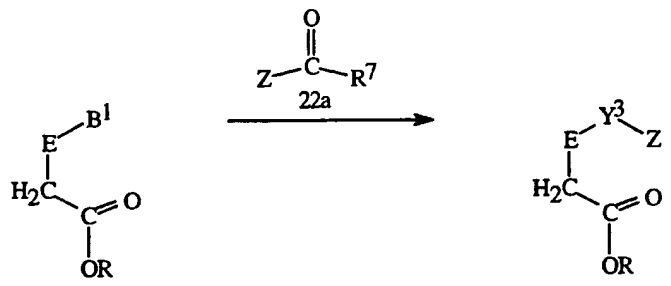
R^{26} = OH, SH, $CHR^{15}OH$, $CHR^{15}SH$, NHR^{15}

Y^2 = O, S, $OCHR^{15}$, $SCHR^{15}$, $CHR^{15}O$, $CHR^{15}S$, NR^{15}

Lg = Br, Cl, I, OSO_2CH_3, OSO_2(4-Me-Ph), OSO_2CF_3

Some esters of Formula 15 (Formula 15f) can also be prepared by forming the Y^3 bridge from substituted hydroxylamine 15e and carbonyl compounds 22a. The hydroxylamine 15e is in turn prepared from esters 15d. This method has been described in EP-A-600,835 and illustrated in Scheme 11.

Scheme 11



15f

15d $B^1 = CHR^{15}Br$

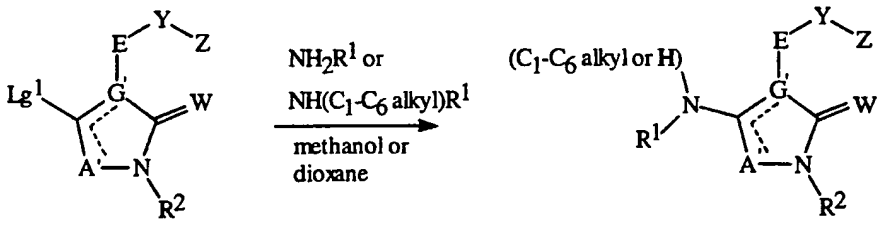
15e $B^1 = CHR^{15}ONH_2 \cdot HCl$

$R = C_1$-C_4 alkyl

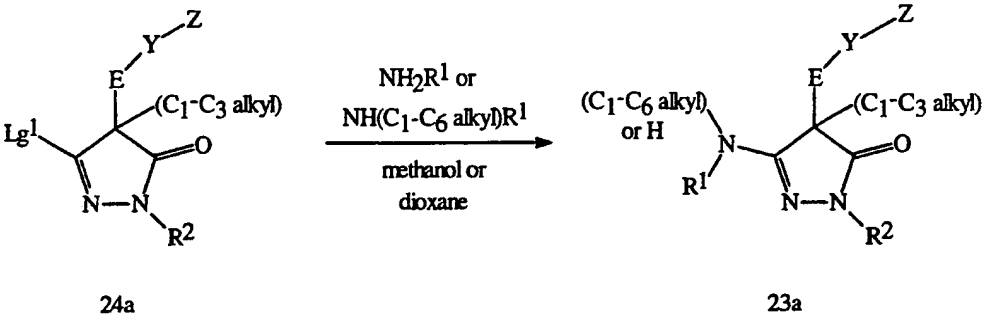
$Y^3 = CHR^{15}ON{=}C(R^7)$

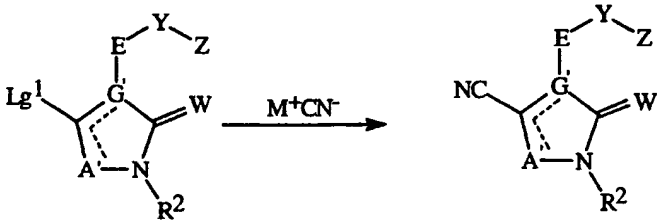
Compounds of Formula 23 (compounds of Formula I in which G = G-2 or G-3, G' = C or N, and A' = A or B) can be prepared by reaction of Formula 24 compounds with lower alkyl amines in a suitable solvent such as methanol or dioxane (Scheme 12). The leaving group Lg^1 in the amides of Formula 24 are any group known in the art to undergo a displacement reaction of this type. Examples of suitable leaving groups include chlorine, bromine, and sulfonyl and sulfonate groups. Similarly, compounds of Formula 23a can be prepared from compounds of 24a. Compounds of Formula 23b and 23c can be prepared by reaction of compounds of 24 or 24a, respectively, with alkali or transition metal cyanide salts. Displacements of this type are well established in the art. The reactions are usually conducted in polar, aprotic solvents such as N,N-dimethylformamide, with or without additional catalysts. For an example, see A. Miyashita, y. Suzuki, K. Ohta, T. Higashino, *Heterocycles*, (1994) *39*, 345.

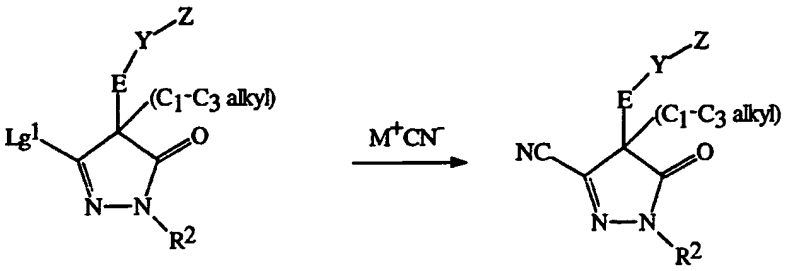
Scheme 12



Lg^1 = Cl, Br, $-SO_2V$, or $-OSO_2V$
V = C_1-C_6 alkyl, C_1-C_6 haloalkyl, or 4-CH_3-C_6H_4

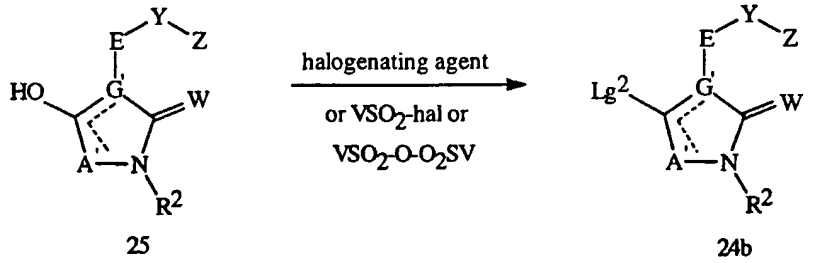






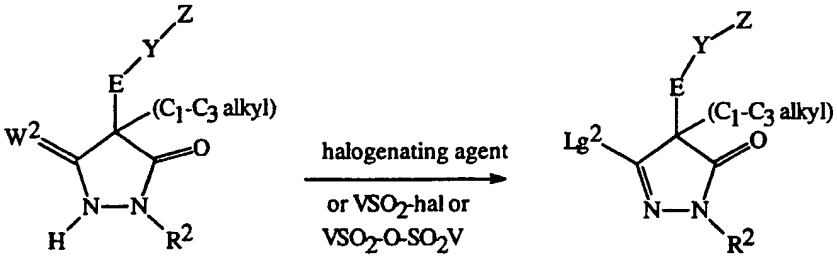
Compounds of Formula 24b can be prepared from compounds of Formula 25 by reaction with halogenating agents such as thionyl chloride or phosphorus oxybromide to form the corresponding β-halo-substituted derivatives (Scheme 13). Alternatively, compounds of Formula 25 can be treated with an alkylsulfonyl halide or haloalkylsulfonyl anhydride, such as methanesulfonyl chloride, *p*-toluenesulfonyl chloride, and trifluoromethanesulfonyl anhydride, to form the corresponding β-alkylsulfonate of Formula 24b. The reaction with the sulfonyl halides may be performed in the presence of a suitable base (e.g., triethylamine). In a similar manner, compounds of Formula 24c can be prepared from compounds of Formula 6c.

Scheme 13



25 24b

Lg^2 = Cl, Br, or $-OSO_2V$
V = C_1-C_6 alkyl, C_1-C_6 haloalkyl, or 4-CH_3-C_6H_4
hal = Br, Cl or F



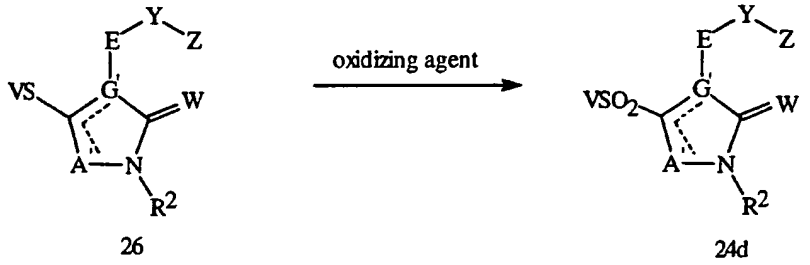
6c 24a

W^2 = O, S

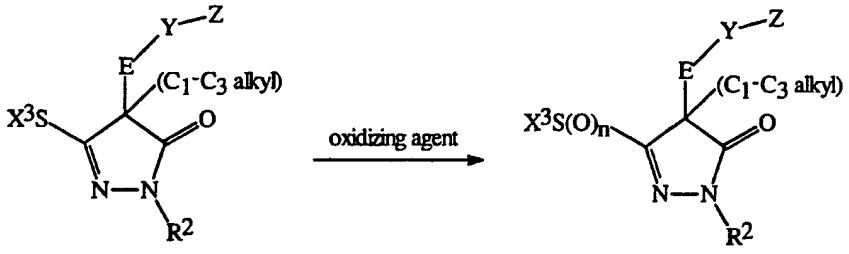
As illustrated in Scheme 14, sulfonyl compounds of Formula 24d can be prepared by oxidation of the corresponding thio compound of Formula 26 using well-known methods for the oxidation of sulfur (see Schrenk, K. In *The Chemistry of Sulphones and Sulphoxides*; Patai, S. et al., Eds.; Wiley: New York, 1988). Suitable oxidizing reagents include meta-chloro-peroxybenzoic acid, hydrogen peroxide and Oxone® ($KHSO_5$).

Similarly, compounds of Formula 26a can be oxidized to compounds of Formula 24e with one or two equivalents of oxidizing reagent.

Scheme 14



V = C_1-C_6 alkyl, C_1-C_6 haloalkyl, or 4-CH_3-C_6H_4

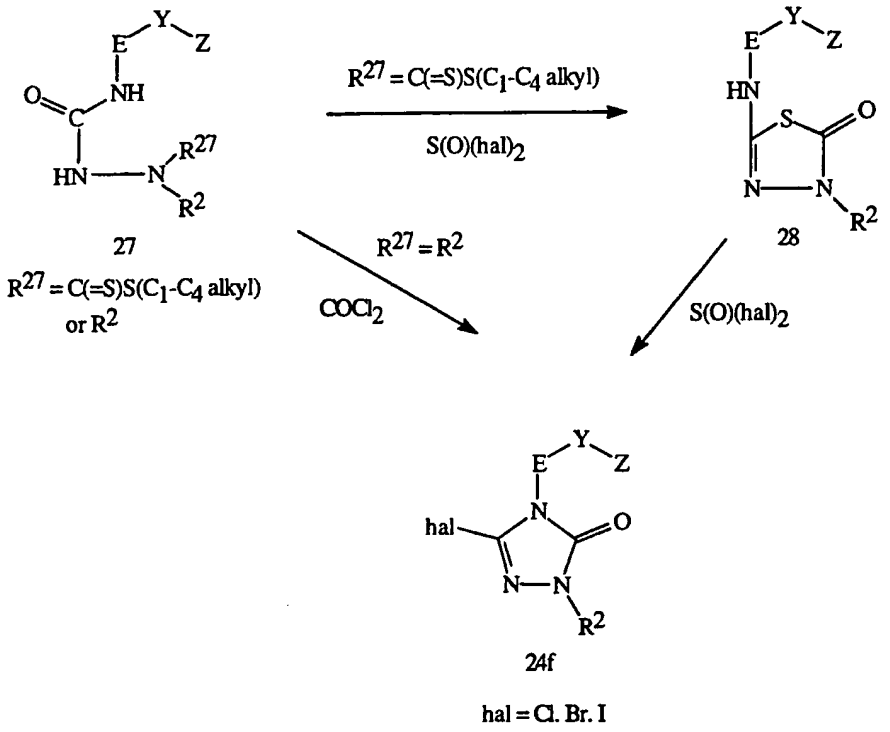


X^3 = C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C6 alkynyl, C_2-C_6 haloalkenyl C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl

Alternatively, halo-compounds of Formula 24f (compounds of Formula 24b wherein A' = A = N, G' = N, and W = O) can be prepared from hydrazides of Formula 27 as illustrated in Scheme 15. When R^{27} = C(=S)S(C_1-C_4 alkyl), the diacyl compound of Formula 27 is treated with excess thionyl halide, for example excess thionyl chloride. The product formed first is the ring-closed compound of Formula 28 which can be isolated or converted *in situ* to the compound of Formula 24f; see P. Molina, A. Tárraga, A. Espinosa, *Synthesis*, (1989), 923 for a description of this process.

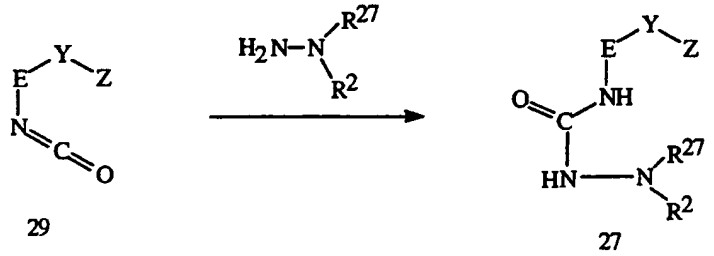
Alternatively, when R^{27} = R^2 as defined above, the hydrazide of Formula 27 is cyclized with phosgene to form the cyclic urea of Formula 24f wherein hal = Cl. This procedure is described in detail in *J. Org. Chem.*, (1989), *54*, 1048.

Scheme 15



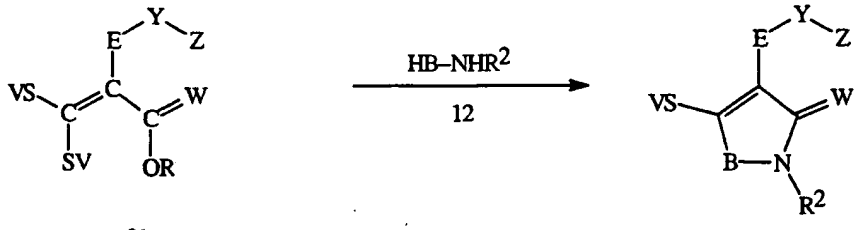
The hydrazides of Formula 27 can be prepared as illustrated in Scheme 16. Condensation of the isocyanate of Formula 29 with the hydrazine of Formula $H_2NNR^2R^{27}$ in an inert solvent such as tetrahydrofuran affords the hydrazide.

Scheme 16



In addition to the methods disclosed above, compounds of Formula 30 can be prepared by treating a ketenedithioacetal of Formula 31 with an ambident nucleophile of Formula 12 (Scheme 17). The nucleophiles of Formula 12 are described above.

Scheme 17

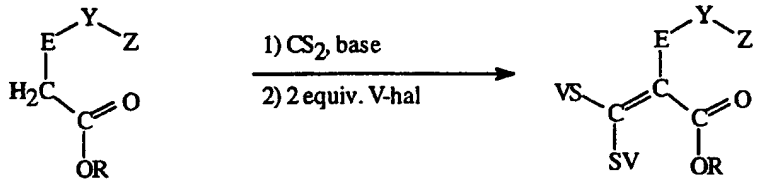


31 30

R = C_1-C_4 alkyl
V = C_1-C_6 alkyl, C_1-C_6 haloalkyl, or 4-CH_3-C_6H_4

Ketene dithioacetals of Formula 31a can be prepared by condensing arylacetic acid esters of Formula 15 with carbon disulfide in the presence of a suitable base, followed by reaction with two equivalents of an V-halide, such as iodomethane or propargyl bromide (Scheme 18).

Scheme 18



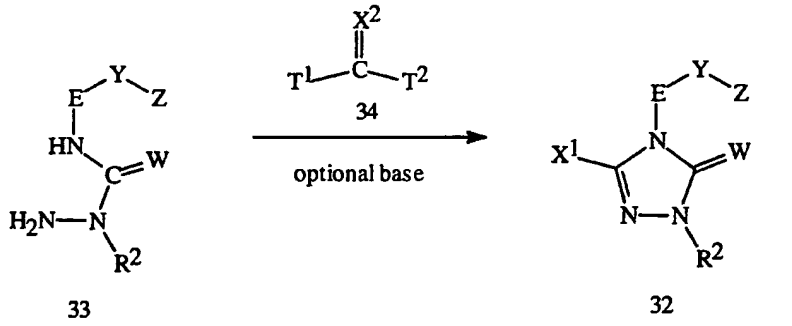
15 31a

hal = Cl, Br or I
R = C_1-C_4 alkyl
V = C_1-C_6 alkyl, C_1-C_6 haloalkyl

Compounds of Formula 32 can be prepared by condensation of *N*-amino-ureas of Formula 33 with a carbonylating agent of Formula 34 (Scheme 19). The carbonylating agents of Formula 34 are carbonyl or thiocarbonyl transfer reagents such as phosgene, thiophosgene, diphosgene ($ClC(=O)OCCl_3$), triphosgene ($Cl_3COC(=O)OCCl_3$), *N,N'*-carbonyldiimidazole, *N,N'*-thiocarbonyldiimidazole, and 1,1'-carbonyldi(1,2,4-triazole). Alternatively, the compounds of Formula 34 can be alkyl chloroformates or dialkyl carbonates. Some of these carbonylating reactions may require the addition of a base to effect reaction. Appropriate bases include alkali metal alkoxides such as potassium *tert*-butoxide, inorganic bases such as sodium hydride and potassium carbonate, tertiary amines such as triethylamine and triethylenediamine, pyridine, or 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU). Suitable solvents include polar aprotic

solvents such as acetonitrile, dimethylformamide, or dimethyl sulfoxide; ethers such as tetrahydrofuran, dimethoxyethane, or diethyl ether; ketones such as acetone or 2-butanone; hydrocarbons such as toluene or benzene; or halocarbons such as dichloromethane or chloroform.). The reaction temperature can vary between 0°C and 150°C and the reaction time can be from 1 to 72 hours depending on the choice of base, solvent, temperature, and substrates. Also, compounds of Formula 32a can be prepared by reacting compounds of Formula 33a with alkylamidines in solvents such as *n*-butanol or *N,N*-dimethylformamide in the presence of a base, followed by *N*-alkylation (in the presence of a base) with an alkylhalide as demonstrated by J. Heeves, et al., *J. Med. Chem.*, 1984, *27*, 894-900 (Scheme 19).

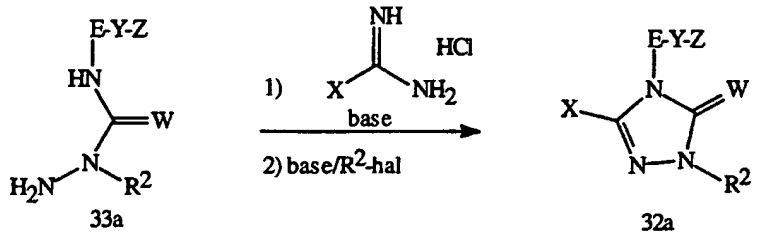
Scheme 19



T^1 and T^2 are independently Cl, $OCCl_3$, $O(C_1\text{-}C_4$ alkyl), 1-imidazolyl, 1,2,4-triazolyl

X^1 = OH or SH

X^2 = O or S

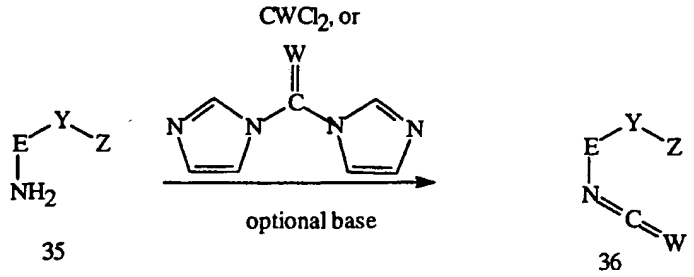


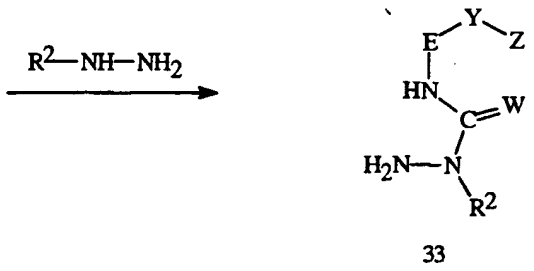
X = C_1-C_6 alkyl, C_1-C_6 haloalkyl

N-Amino-ureas of Formula 33 can be prepared as illustrated in Scheme 20. Treatment of an arylamine of Formula 35 with phosgene, thiophosgene, *N,N'*-carbonyldiimidazole, or *N,N'*-thiocarbonyldiimidazole produces the isocyanate or isothiocyanate of Formula 36. A base can be added for reactions with phosgene or

thiophosgene. Subsequent treatment of the iso(thio)cyanate with an R^2-substituted hydrazine produces the *N*-amino-urea of Formula 33.

Scheme 20

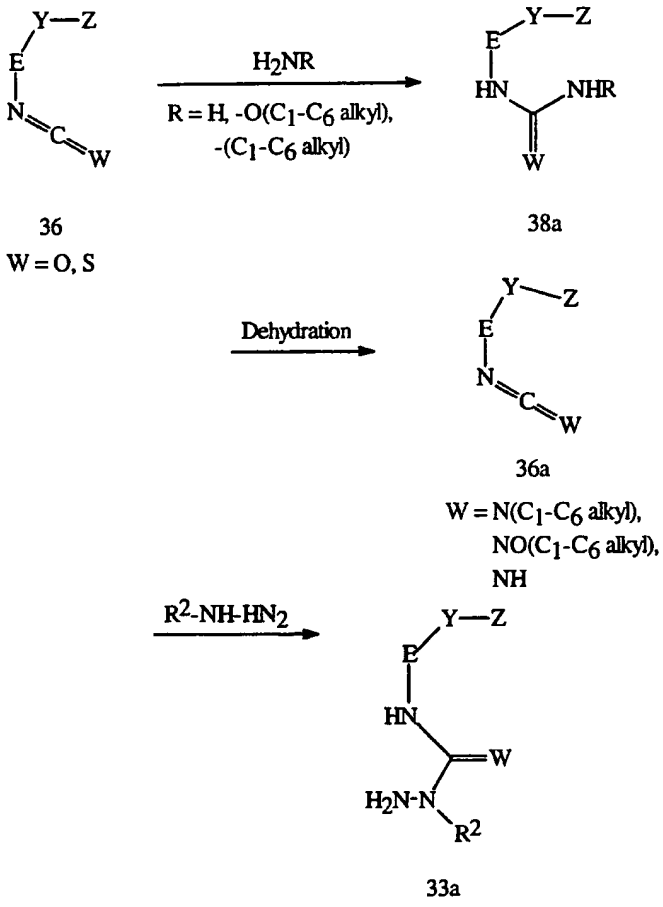




Additionally, Formula 33a compounds can be prepared by reaction of Formula 36 iso(thiocyanates) as outlined in Scheme 20a.

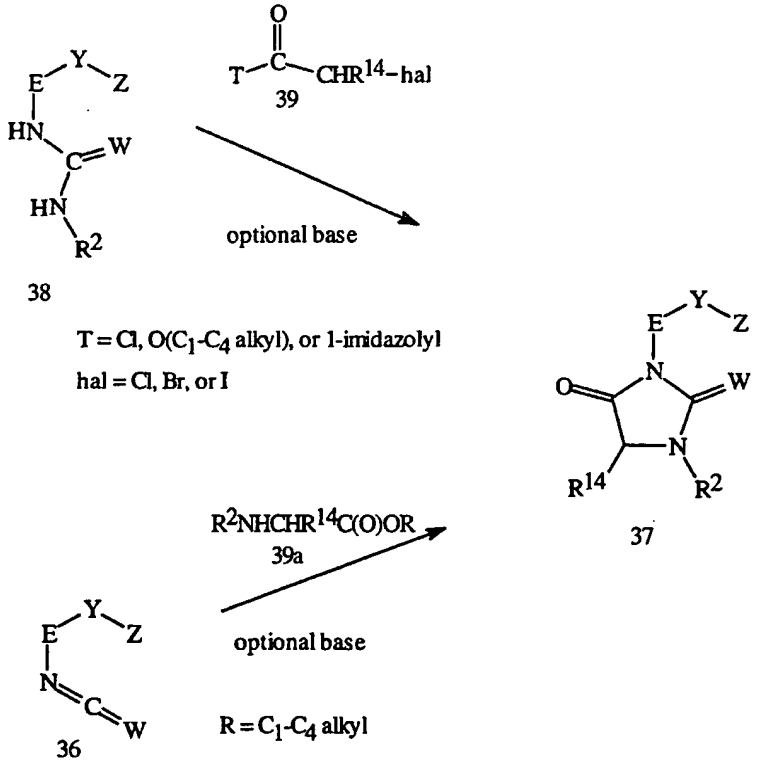
40

Scheme 20a



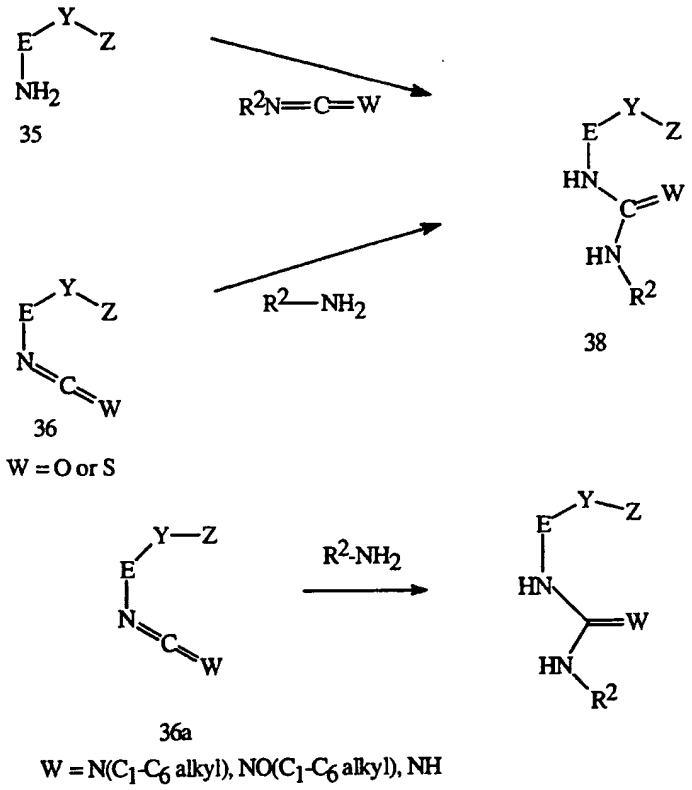
Compounds of Formula 37 can be prepared by either method illustrated in Scheme 21. Ureas of Formula 38 are reacted with activated 2-halocarboxylic acid derivatives such as 2-halocarboxylic acid chlorides, 2-halocarboxylic acid esters or 2-haloacyl imidazoles. The initial acylation on the arylamino nitrogen is followed by an intramolecular displacement of the 2-halo group to effect cyclization. Base may be added to accelerate the acylation and/or the subsequent cyclization. Suitable bases include triethylamine and sodium hydride. Alternatively, Formula 37 compounds can be prepared by reaction of Formula 36 isocyanates with Formula 39a esters. As described above, base may be added to accelerate the reaction and subsequent cyclization to Formula 37 compounds.

Scheme 21



The ureas of Formula 38 can be prepared by either of the methods illustrated in Scheme 22. The arylamine of Formula 35 can be contacted with an isocyanate or isothiocyanate of Formula $R^2N=C=W$ as described above. Alternatively, an isocyanate or isothiocyanate of Formula 36 can be condensed with an amine of Formula R^2-NH_2 to form the urea. The arylamine and iso(thio)cyanates of Formulae 35 and 36, respectively, are commercially available or prepared by well-known methods. For example, isothiocyanates can be prepared by methods described in *J. Heterocycl. Chem.*, (1990), *27*, 407. Isocyanates can be prepared as described in March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, (1985), pp 944, 1166 and also in *Synthetic Communications*, (1993), *23*(3), 335 and references therein. For methods describing the preparation of arylamines of Formula 35 that are not commercially available, see M. S. Gibson in *The Chemistry of the Amino Group*; Patai, S., Ed.; Interscience Publishers, (1968); p 37 and *Tetrahedron Lett.* (1982), 23(7), 699 and references therein.

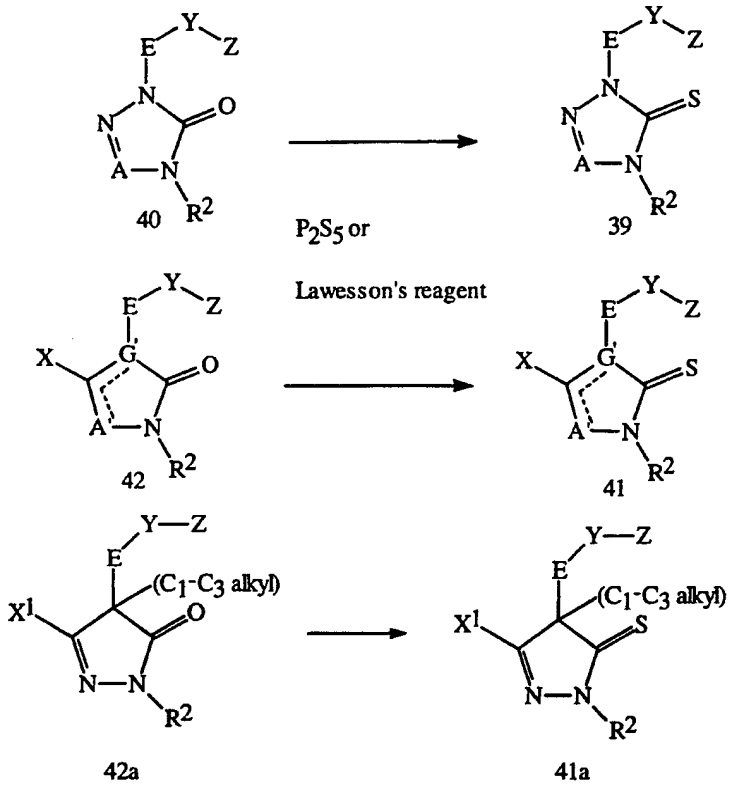
Scheme 22



3) Thionation Procedures

Compounds of Formula 39 (compounds of Formula I wherein G = G-1, W = S) can be prepared by treating compounds of Formula 40 with thionating reagents such as P_2S_5 or Lawesson's reagent (2,4-bis(4-methoxyphenyl)-1,3-dithia-2,4-diphosphetane-2,4-disulfide) as illustrated in Scheme 23 (see *Bull. Soc. Chim. Belg.*, (1978), *87*, 229; and *Tetrahedron Lett.*, (1983), *24*, 3815). Under similar conditions, compounds of Formula 41 (compounds of Formula I wherein G = G-2 or G-3, G' = C or N, and A' = A or B) can be prepared from compounds of Formula 42. Compounds of Formula 41a (compounds of formula I wherein G = G-5, W = S) can be prepared from compounds of Formula 42a.

Scheme 23

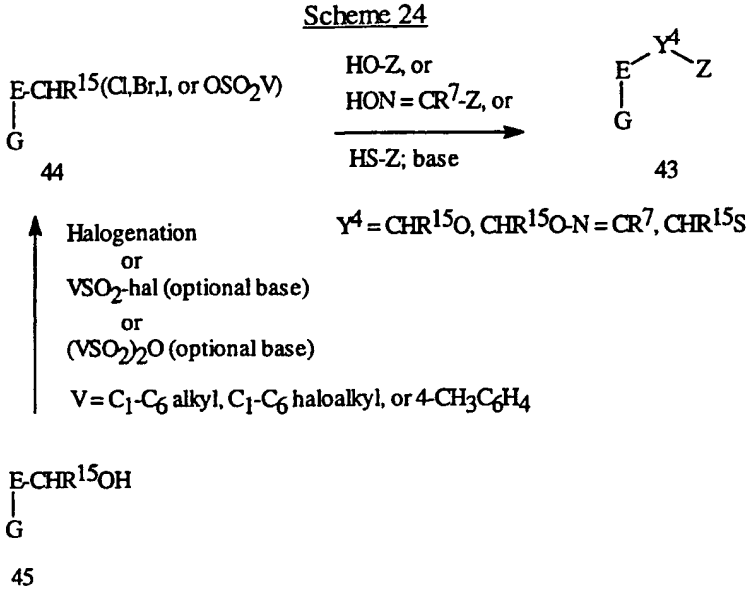


4) Aryl Moiety (E-Y-Z) Synthesis Procedures

Compounds of Formula 43 (compounds of Formula I wherein Y is $CHR^{15}O$, $CHR^{15}S$, or $CHR^{15}O\text{-}N{=}CR^{7}$) can be prepared by contacting halides of Formula 44 with various nucleophiles (Scheme 24). The appropriate alcohol or thiol is treated with a base, for example sodium hydride, to form the corresponding alkoxide or thioalkoxide which acts as the nucleophile.

44

Scheme 24

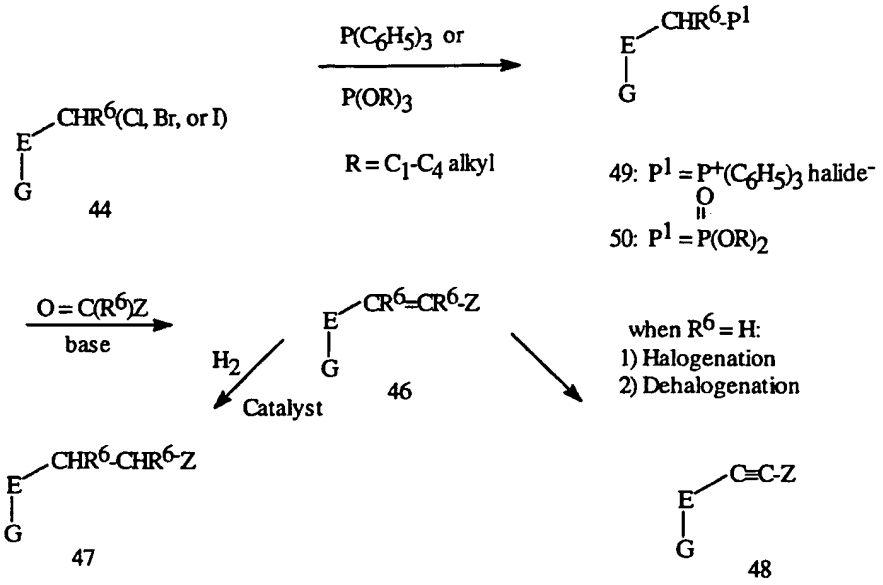


Some aryl halides of Formula 44 can be prepared by radical halogenation of the corresponding alkyl compound (i.e., H instead of halogen in Formula 44), or by acidic cleavage of the corresponding methylether (i.e., OMe instead of halogen in Formula 44). Other aryl halides of Formula 44 can be prepared from the appropriate alcohols of Formula 45 by well known halogenation methods in the art (see Carey, F. A.; Sundberg, R. J. *Advanced Organic Chemistry*; 3rd ed., Part B, Plenum: New York, (1990), p 122).

Compounds of Formula I wherein Y is $CR^6=CR^6$ or CHR^6-CHR^6 (Formula 46 and 47, respectively) can be prepared as illustrated in Scheme 25. Treatment of the halides of Formula 44 with triphenylphosphine or a trialkylphosphite produces the corresponding phosphonium salt (Formula 49) or phosphonate (Formula 50), respectively. Condensation of the phosphorus compound with a base and a carbonyl compound of Formula $Z(R^6)C=O$ affords the olefin of Formula 46.

45

Scheme 25



The olefins of Formula 46 can be converted to the saturated compounds of Formula 47 by hydrogenation over a metal catalyst such as palladium on carbon as is well-known in the art (Rylander, *Catalytic Hydrogenation in Organic Synthesis*; Academic: New York, (1979)).

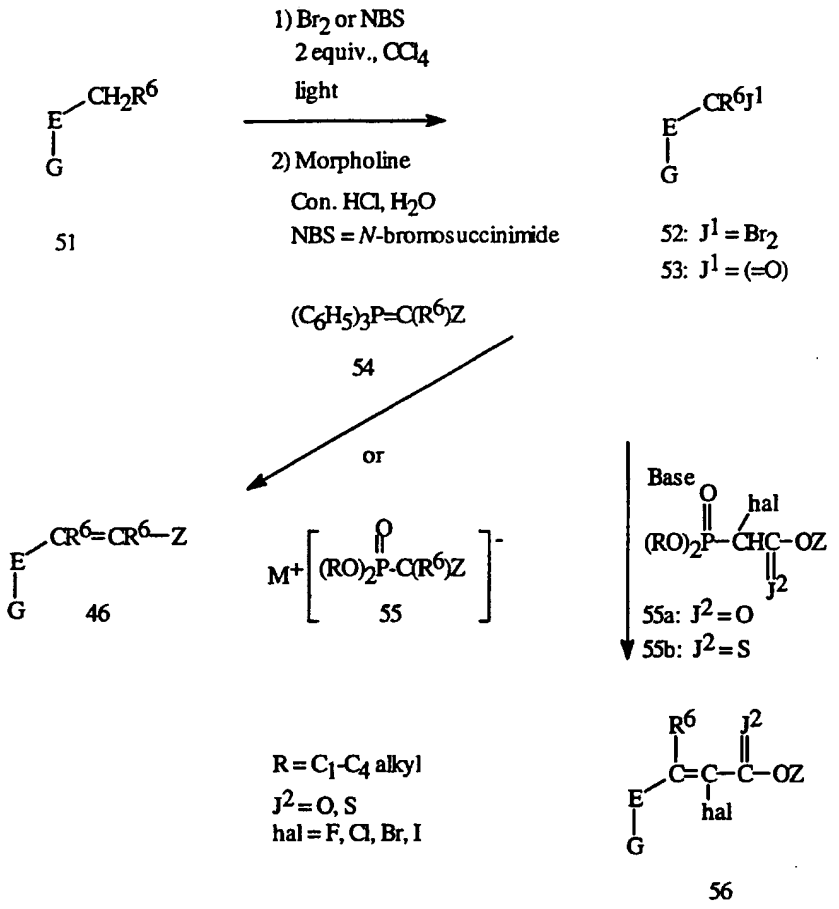
Formula 48 alkynes can be prepared by halogenation/dehalogenation of Formula 46 olefins using procedures well-known in the art (March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, (1985), p 924). Additionally, Formula 48 alkynes can be prepared by well-known reaction of aryl halides with alkyne derivatives in the presence of catalysts such as nickel or palladium (see *J. Organomet. Chem.*, (1975), *93* 253-257).

The olefin of Formula 46 can also be prepared by reversing the reactivity of the reactants in the Wittig or Horner-Emmons condensation. For example, 2-alkylaryl derivatives of Formula 51 can be converted into the corresponding dibromo-compound of Formula 52 as illustrated in Scheme 26 (see *Synthesis*, (1988), 330). The dibromo-compound can be hydrolyzed to the carbonyl compound of Formula 53, which in turn can be condensed with a phosphorus-containing nucleophile of Formula 54 or 55 to afford the olefin of Formula 46. Additionally, compounds of Formula 53 can be prepared by oxidation of the corresponding alcohols of Formula 30.

Vinylhalides of Formula 56 can be prepared by reacting phosphorus reagents of Formulae 55a or 55b with carbonyl compounds of Formula 53 (Scheme 26). The preparations of halides of Formula 55a from the appropriate diethylphosphonoacetate are

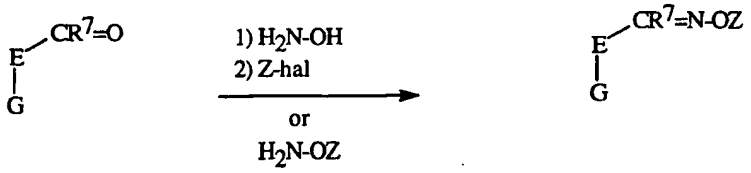
described by McKenna and Khawli in *J. Org. Chem.*, (1986), *51*, 5467. The thiono esters of Formula 55b can be prepared from esters of Formula 55a by converting the carbonyl oxygen of the ester to a thiocarbonyl (see *Chem. Rev.*, (1984), *84*, 17 and *Tetrahedron Lett.*, (1984), *25*, 2639).

Scheme 26



Oximes of Formula 57 (Formula I wherein Y is $C(R^7)$ = N-O) can be prepared from carbonyl compounds of Formula 58 by condensation with hydroxylamine, followed by *O*-alkylation with electrophiles of Formula Z-(Cl, Br, or I) (Scheme 27). Alternatively, the *O*-substituted hydroxylamine can be condensed with the carbonyl compound of Formula 58 to yield oximes of Formula 57 directly.

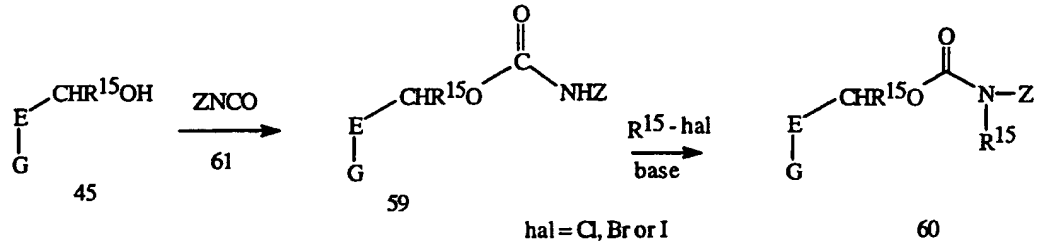
Scheme 27



58 hal = Cl, Br or I 57

Carbamates of Formula 59 can be prepared by reacting aryl alcohols of Formula 45 with isocyanates of Formula 61 (Scheme 28). A base such as triethylamine can be added to catalyze the reaction. As shown, carbamates of Formula 59 can be further alkylated to provide the carbamates of Formula 60.

Scheme 28



45 59 60

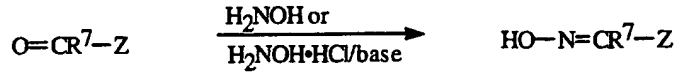
hal = Cl, Br or I

Compounds of Formula I wherein Y is -$CHR^{15}O$-N=$C(R^7)$-C(=N-A^2-Z^1)-A^1-, -$CHR^{15}O$-N=$C(R^7)$-$C(R^7)$=N-A^2-A^3- or -$CHR^{15}O$-N=C(-$C(R^7)$=N-A^2-Z^1)- can be prepared by methods known in the art (see, for example, WO 95/18789, WO 95/21153, and references therein) together with the methods disclosed herein.

The compounds of the present invention are prepared by combinations of reactions as illustrated in the Schemes 1-28 in which Z is a moiety as described in the summary. Preparation of the compounds containing the radical Z as described in the summary, substituted with L (defined as any group attached to Z as depicted in each of the individual schemes) can be accomplished by one skilled in the art by the appropriate combination of reagents and reaction sequences for a particular Z-L. Such reaction sequences can be developed based on known reactions available in the chemical art. For a general reference, see March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, (1985) and references therein. See the following paragraphs for some examples of how L is defined in individual schemes, and the preparation of representative Z-L examples.

Compounds of Formula 63 in Scheme 29 can be prepared from compounds of Formula 62 by reaction with hydroxylamine or hydroxylamine salts. See Sandler and Karo, "Organic Functional Group Preparations," Vol. 3 Academic Press, New York, (1972) 372-381 for a review of methods. Compounds of Formula 63 correspond to compounds of Formula 19 in Scheme 9 when Y^1 = O-N=C(R^7) and in Scheme 24, reagent HO-N=CR^7.

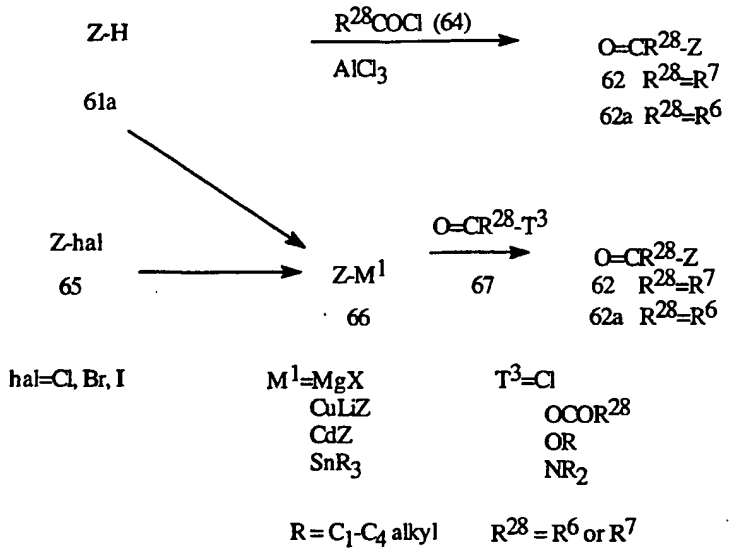
Scheme 29



62 63

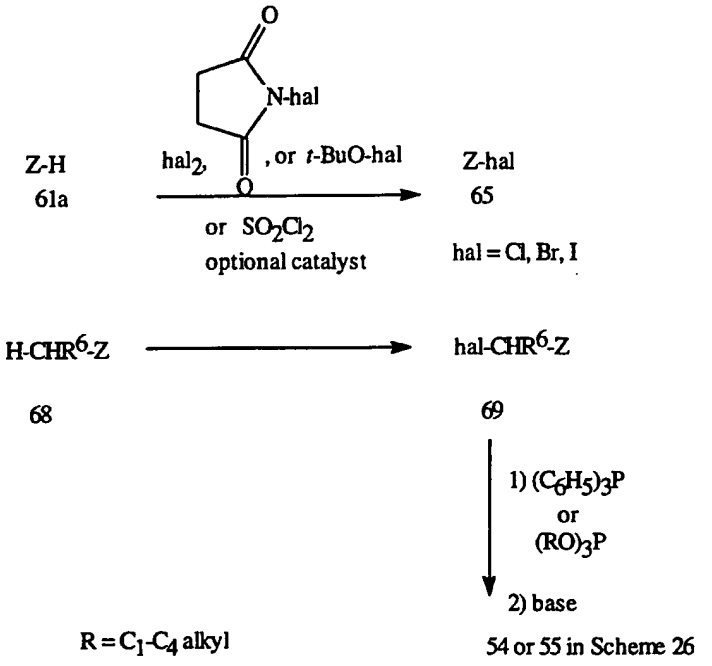
Compounds of Formula 62 can be prepared from compounds of Formula 61a (Scheme 30) by Friedel-Crafts acylation with compounds of Formula 64. (See Olah, G. *Friedel-Crafts and Related Reactions*, Interscience, New York (1963-1964) for a general review). Compounds of Formula 62 may also be prepared by reaction of acyl halides, anhydrides, esters, or amides of Formula 67 with organometallic reagents of Formula 66. (See March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, (1985), pp 433-435 and references therein.) The organometallic compounds of Formula 66 may be prepared by reductive metallation or halogen-metal exchange of a halogen-containing compound of Formula 65 using, for example, magnesium or an organolithium reagent, or by deprotonation of compounds of Formula 61a using a strong base such as a lithioamide or an organolithium reagent, followed by transmetallation. Compound 62 corresponds to Compound 17a in Scheme 11, while Compound 62a corresponds to O = C(R^6)Z in Scheme 25.

Scheme 30



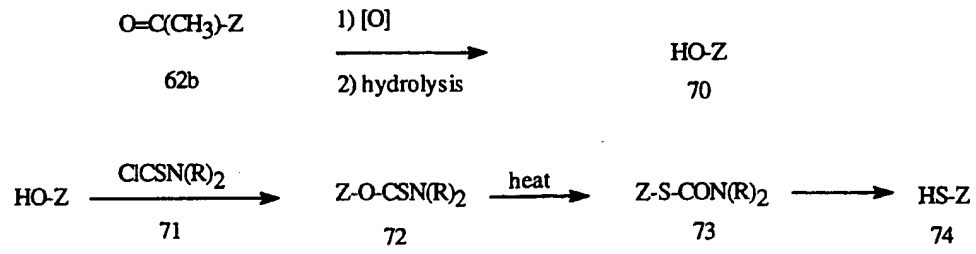
Compounds of Formula 65 may be prepared by reaction of compounds of Formula 61a (Scheme 31) with, for example, bromine or chlorine, with or without additional catalysts, under free-radical or aromatic electrophilic halogenation conditions, depending on the nature of Z. Alternative sources of halogen, such as *N*-halosuccinimides, *tert*-butyl hypohalites or SO_2Cl_2, may also be used. (See March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, (1985), pp 476-479, 620-626, and references therein.) For a review of free-radical halogenation, see Huyser, in Patai," The Chemistry of the Carbon-Halogen Bond," Part 1, Wiley, New York (1973) pp 549-607. For electrophilic substitutions, see de la Mare, "Electrophilic Halogenation," Cambridge University Press, London (1976). Compounds of Formula 65 correspond to compounds of Formula 21 in Scheme 10 where Lg = Br, Cl, or I and reagent Z-hal in Scheme 27. Compounds of Formula 69 can be prepared from compounds of Formula 68 by similar procedures. Compounds of Formula 69 correspond to compounds of Formula 22 in Scheme 10 where Lg = Br, Cl, or I. Compounds of Formula 54 or 55 in Scheme 26 can be prepared by reaction of compounds of Formula 69 with triphenylphosphine or trialkyl phosphites, respectively, followed by deprotonation with base. See Cadogen, "Organophosphorus Reagents in Organic Synthesis," Academic Press, New York (1979) for a general treatise on these reagents.

Scheme 31



Compounds of Formula 70 can be prepared from compounds of Formula 62b by treatment with peracids such as perbenzoic or peracetic acid, or with other peroxy compounds in the presence of an acid catalysts, followed by hydrolysis of the resultant ester. For a review, see Plesnicar, in Trahanovsky, "Oxidation in Organic Chemistry, pt. C, Academic Press, New York (1978) pp 254-267. Formula 70 corresponds to Formula 19 in Scheme 9 when Y^1 = O and reagent HO-Z in Scheme 24. Compounds of Formula 74 can be prepared from compounds of Formula 70 by conversion to the dialkylthiocarbamates of Formula 72 followed by rearrangement to Formula 73 and subsequent hydrolysis. See M. S. Newman and H. A. Karnes, *J. Org. Chem.* (1966), *31*, 3980-4. Formula 74 corresponds to Formula 19 in Scheme 9 when Y^1 = S and reagent HS-Z in Scheme 24.

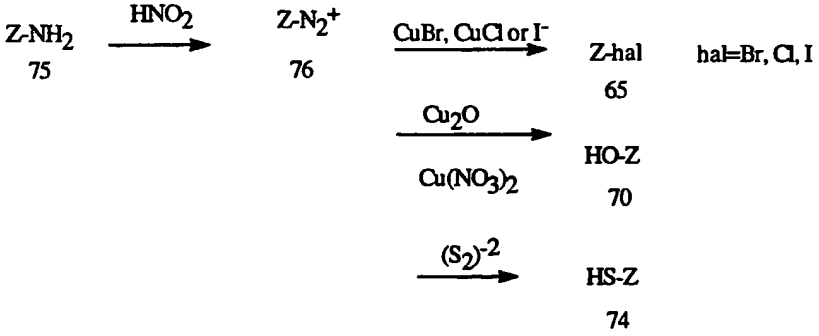
Scheme 32



R = C_1-C_4 alkyl

Compounds of Formula 75 can be converted to compounds of Formulae 65, 70 or 74 via the diazonium compounds 76, by treatment with nitrous acid followed by subsequent reaction (Scheme 33). See reviews by Hegarty , pt. 2, pp 511-91 and Schank, pt. 2, pp 645-657, in Patai, "The Chemistry of Diazonium and Diazo Groups," Wiley, New York (1978). Treatment of Formula 76 compounds with cuprous halides or iodide ions yield compounds of Formula 65. Treatment of Formula 76 compounds with cuprous oxide in the presence of excess cupric nitrate provides compounds of Formula 70. (Cohen, Dietz, and Miser, *J. Org. Chem*, (1977), *42*, 2053). Treatment of Formula 76 compounds with $(S_2)^{-2}$ yields compounds of Formula 74.

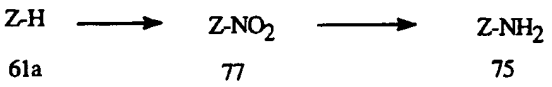
Scheme 33



Compounds of Formula 75 can be prepared from compounds of Formula 61a by nitration, followed by reduction (Scheme 34). A wide variety of nitrating agents is available (see Schofield, *Aromatic Nitration*, Cambridge University Press, Cambridge (1980)). Reduction of nitro compounds can be accomplished in a number of ways (see March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, (1985),

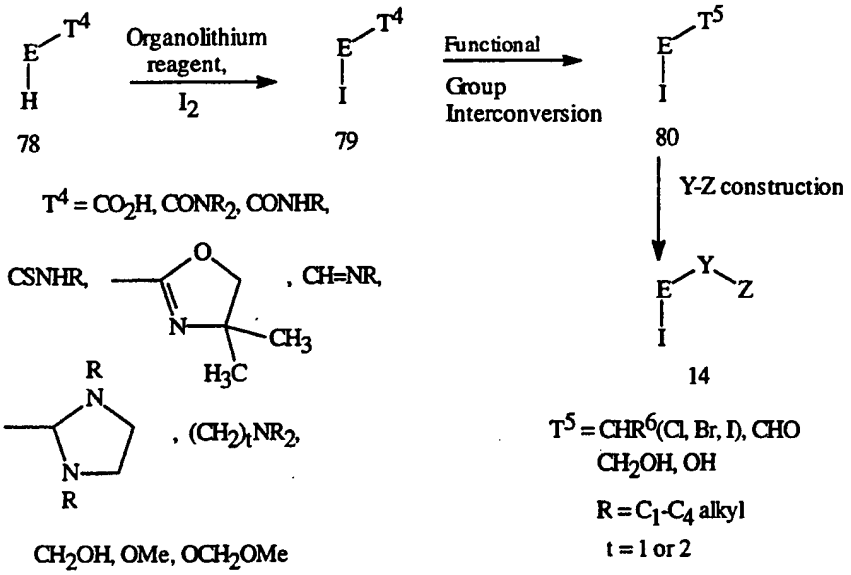
pp 1103-4 and references therein). Formula 75 corresponds to Formula 19 in Scheme 9 when $Y^1 = NR^{15}$ and $R^{15} = H$.

Scheme 34



Iodides of Formula 14 can be prepared from compounds of Formula 80 by the methods described above in Schemes 24-28 for various Y-Z combinations. Compounds of Formula 80 can in turn be prepared from compounds of Formula 79 by functional group interconversions which are well known to one skilled in the art. The compounds of Formula 79 can be prepared by treating compounds of Formula 78 with an organolithium reagent such as *n*-BuLi or LDA followed by trapping the intermediate with iodine (Beak, P., Snieckus, V. *Acc. Chem. Res.*, (1982), *15*, 306). Additionally, lithiation via halogen metal exchange of compounds of Formula 78, where H is replaced by Br, will produce an intermediate which can be trapped with iodine to prepare compounds of Formula 79 (Parham, W E., Bradsher, C. K. *Acc. Chem. Res.*, (1982), *15*, 300 (Scheme 32).

Scheme 35



It is recognized that some reagents and reaction conditions described above for preparing compounds of Formula I may not be compatible with certain functionalities present in the intermediates. In these instances, the incorporation of protection/deprotection sequences or functional group interconversions into the synthesis will aid in obtaining the desired products. The use and choice of the protecting groups will be apparent to one skilled in chemical synthesis (see, for example, Greene, T. W.; Wuts, P. G. M. *Protective Groups in Organic Synthesis*, 2nd ed.; Wiley: New York, 1991). One skilled in the art will recognize that, in some cases, after the introduction of a given reagent as it is depicted in any individual scheme, it may be necessary to perform additional routine synthetic steps not described in detail to complete the synthesis of compounds of Formula I. One skilled in the art will also recognize that it may be necessary to perform a combination of the steps illustrated in the above schemes in an order other than that implied by the particular sequence presented to prepare the compounds of Formula I.

One skilled in the art will also recognize that compounds of Formula I and the intermediates described herein can be subjected to various electrophilic, nucleophilic, radical, organometallic, oxidation, and reduction reactions to add substituents or modify existing substituents.

Without further elaboration, it is believed that one skilled in the art using the preceding description can utilize the present invention to its fullest extent. The following Examples are, therefore, to be construed as merely illustrative, and not limiting of the disclosure in any way whatsoever. Percentages are by weight except for chromatographic solvent mixtures or where otherwise indicated. Parts and percentages for chromatographic solvent mixtures are by volume unless otherwise indicated. ^{1}H NMR spectra are reported in ppm downfield from tetramethylsilane; s = singlet, d = doublet, t = triplet, q = quartet, m = multiplet, br s = broad singlet.

EXAMPLE 1

Step A: Preparation of *N*-[2-(bromomethyl)phenyl]-2,2-dimethylhydrazinecarboxamide

o-Tolyl isocyanate (50.4 g) and 75.2 g of *N*-bromosuccinimide in 800 mL of carbon tetrachloride were heated to reflux. Benzoyl peroxide (1.1 g) was added and the mixture was heated at reflux for 1.5 h. The solution was cooled to room temperature and the precipitate was removed by filtration. The filtrate was concentrated *in vacuo* and redissolved in 500 mL of toluene and cooled to 5°C. 1,1-Dimethylhydrazine (30 mL) in 20 mL of toluene was added dropwise. The reaction mixture was stirred at room temperature overnight. The precipitated solid was collected by filtration and redissolved

in 1 L of dichloromethane. The organic solution was washed with 500 mL of water and then with 500 mL of saturated aqueous sodium chloride solution. The organic phase was dried ($MgSO_4$), filtered and concentrated to give 58 g (56% yield) of the title compound of Step A as a beige solid. ^1H NMR ($CDCl_3$): δ 8.6 (br s,1H), 8.00 (d,1H), 7.30 (m,2H), 7.04 (t,1H), 5.70 (br s,1H), 4.52 (s,2H), 2.67 (s,6H). The material was used in the next step without further characterization.

Step B: Preparation of 5-chloro-4-[2-(chloromethyl)phenyl]-2,4-dihydro-2-methyl-3*H*-1,2,4-triazol-3-one

The title compound of Step A (58 g) was dissolved in 800 mL of dichloromethane and 86 g of triphosgene was added in one portion. A slight exotherm was observed, and then the mixture was heated to reflux overnight. The reaction mixture was cooled and the solvent removed *in vacuo*. The resulting solid was dissolved in 1 L of ethyl acetate and washed with 500 mL of water, 500 mL of saturated aqueous sodium bicarbonate, and then 500 mL of saturated aqueous sodium chloride solution. The organic phase was dried ($MgSO_4$), filtered and concentrated to give a dark oil which solidified on standing. The solid was triturated in 2:1 hexane: *n*-butyl chloride to yield 32 g of a beige solid. Recrystallization of the solid from 150 mL of hot methanol yielded 21 g of the title compound of Step B as a white, fluffy solid melting at 122-124°C. A second crop was obtained from recrystallization of the mother liquors. ^1H NMR ($CDCl_3$): δ 7.45-7.6 (m,3H), 7.25 (m,1H), 4.68 (d,1H), 4.46 (d,1H), 3.56 (s,3H). Approximately 10% of 5-chloro-4-[2-(bromomethyl)phenyl]-2,4-dihydro-2-methyl-3*H*-1,2,4-triazol-3-one was observed in the ^1H NMR spectrum.

Step C: Preparation of 1-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)ethanone oxime

To a stirred solution of 5.0 g of 7-acetyl-1,2,3,4-tetrahydro-1,1,4,4-tetramethylnaphthalene in 20 mL of methanol under a nitrogen atmosphere was added 1.65 g of hydroxylamine hydrochloride and then 1.96 g of sodium acetate. The reaction was allowed to stir overnight, then was diluted with diethyl ether, washed twice with distilled water and then saturated aqueous sodium chloride solution. The organic phase was dried ($MgSO_4$), filtered and concentrated under reduced pressure. The resulting solid was triturated with a small amount of hexanes to afford 4.25 g of the title compound of Step C as a white solid. ^1H NMR ($CDCl_3$): δ 7.57 (s,1H), 7.36 (m,2H), 2.28 (s,3H), 1.69 (s,4H), 1.31 (s,6H), 1.28 (s,6H).

Step D: Preparation of 5-chloro-2,4-dihydro-2-methyl-4-[2-[[[[1-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one

To a stirred solution of 1.71 g of the title compound of Step C in 12 mL of THF under a nitrogen atmosphere was added 0.85 g of potassium *t*-butoxide. Another 6 mL of THF and 6 mL of DMF was added (to enable stirring) and then 1.5 g of the title compound of Step B was added. The reaction mixture was allowed to stir for 3 h, then was diluted with diethyl ether and washed with distilled water. The organic phase was dried ($MgSO_4$), filtered and concentrated under reduced pressure. The resulting material was purified by flash chromatography (20-30% ethyl acetate/hexanes as eluant) to give 2.05 g of the title compound of Step D as a gum (approximately 80% pure). ^1H NMR ($CDCl_3$): δ 7.60 (m,1H), 7.50 (m,3H), 7.3-7.2 (m,3H), 5.25 (d,1H), 5.17 (d,1H), 3.47 (s,3H), 2.16 (s,3H), 1.69 (m,4H), 1.28 (m,12H).

Step E: Preparation of 2,4-dihydro-2-methyl-5-(methylamino)-4-[2-[[[[1-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one

The title compound of Step D (1 g) was dissolved/suspended in 5 mL methanol and then 5 g of methylamine was added. The container was closed (sealed) and heated at approximately 90°C for 36 h. The reaction was allowed to cool and the vessel was evacuated. The solution/suspension was concentrated under reduced pressure. The residue was dissolved in ethyl acetate, washed with distilled water and then saturated aqueous sodium chloride solution. The organic phase was dried ($MgSO_4$), filtered and concentrated under reduced pressure. The crude product was purified by flash chromatography (80-100% ethyl acetate/hexanes as eluant) to afford 300 mg of the title compound of Step E, a compound of the invention, as a solid (85% pure). ^1H NMR ($CDCl_3$): δ 7.65 (d,1H), 7.6-7.1 (m,6H), 5.15 (m,2H), 3.95 (m,1H), 3.45 (s,3H), 2.6 (d,3H), 2.2 (s,3H), 1.65 (s,4H), 1.25 (s,12H).

EXAMPLE 2

Step A: Preparation of 2-(3-bromophenyl)-2-methyl-1,3-dioxolane

1-(3-Bromophenyl)ethanone (60.6 g, 0.3 mole), ethylene glycol (83.7 mL, 1.5 mole), and *p*-toluenesulfonic acid (0.15 g) were dissolved in benzene (250 mL) and heated to reflux overnight using a Dean-Stark apparatus. Water and some ethylene glycol had separated and the cooled (room temperature) mixture was poured into water (300 mL) and extracted with diethyl ether (2 x 100 mL). The combined organic phases

were dried ($MgSO_4$) and concentrated to give the crude product as an oil (62.05 g, 85%). 31.7 g of the oil was vacuum distilled and 29.54 g of the title compound of Step A was isolated as the fraction boiling between 64-73°C (24-27 Pa).

Step B: Preparation of 1-[3-(trimethylgermyl)phenyl]ethanone

A 250 mL 4-neck flask was charged with a suspension of magnesium pieces (0.8 g, 0.033 mole) in 5 mL of THF. A solution of the title compound of Step A dissolved in 20 mL of THF was added dropwise (a few crystals of iodine were added to the mixture after a small portion of the solution had been added). Heating to 60°C was required to initiate the reaction; the temperature was then maintained between 62-67°C during the remainder of the addition and then the mixture was heated to reflux for 1.5 h. After cooling the mixture to 60°C, a solution of trimethylgermanium bromide (6.52 g, 0.033 mole) dissolved in THF (7 mL) was added in small aliquots, allowing the exotherm from each addition to keep the temperature between 65-67°C. The mixture was refluxed a total of 2 h, cooled, and poured into a saturated ammonium chloride solution (40 mL). Following separation of the organic layer, the aqueous layer was extracted with diethyl ether. The combined organic layers were dried ($MgSO_4$) and concentrated to give 8.75 g of an oil which slowly crystallized. This solid was then dissolved in acetone (70 mL) and 1 N HCl (2 mL) was added. The resulting solution was refluxed for 3 h. The reaction mixture was concentrated and the residue was partitioned between water and diethyl ether. After drying ($MgSO_4$), the organic phase was concentrated to yield 6.95 g (89% overall for both steps) of the title compound of Step B as a yellow oil. ^1H NMR ($CDCl_3$): δ 8.063 (s,1H), 7.9 (d,1H), 7.7 (d,1H), 7.4 (t,1H), 2.62 (s,3H), 0.43 (s,7H).

Step C: Preparation of 1-[3-(trimethylgermyl)phenyl]ethanone oxime

Sodium acetate trihydrate (4.09 g, 0.03 mole) was added to a solution of hydroxylamine hydrochloride (2.09 g, 0.03 mole) in water (25 mL), and this solution was added to a solution of the title compound of Step B (4.87 g, 0.021 mole) in methanol (40 mL). The mixture was then refluxed overnight and concentrated *in vacuo*. The mixture was treated with water and then extracted with methylene chloride (2 x 120 mL). The combined organic layers were dried ($MgSO_4$) and concentrated to yield an oil. Filtration through a 1.5 inch column of silica gel (25% ethyl acetate/hexanes) yielded two fractions, the second of which was chromatographed using a medium pressure liquid chromatograph (MPLC) (10% ethyl acetate/hexanes). The two fractions obtained corresponded to both isomers of the title compound of Step C. On standing at room temperature one of the products isomerized to a mixture. The predominant isomer was used in further preparations (1.2 g, 23%). ^1H NMR ($CDCl_3$): δ 9.112 (s,1H), 7.73 (s,1H), 7.545 (d,1H), 7.48 (d,1H), 7.393 (t,1H), 2.312 (s,3H), 0.405 (s,8H).

Step D: Preparation of 2-[(2-methylphenyl)hydrazono]propanoic acid

o-Tolylhydrazine hydrochloride (10 g, 63.0 mmol) was ground to a fine powder and suspended in a mixed solvent of 60 mL of ethanol and 60 mL of 10% aqueous HCl. The suspension turned into a clear solution after heating at 60°C. To this solution was added dropwise pyruvic acid (5.3 mL, 75.7 mmol). The mixture was stirred at room temperature for 1 h and 100 mL of water was added. The orange precipitate was collected via filtration. After drying overnight (55°C, 10 h) in the vacuum oven, the title compound of Step D (8.8 g, 73%) was obtained as a light orange solid melting at 155-157°C. ^{1}H NMR ($CDCl_3$): δ 2.16 (s,3H), 2.30 (s,3H), 6.99 (t,1H), 7.17 (d,1H), 7.26 (t,1H), 7.42 (d,1H), 7.56 (s,1H).

Step E: Preparation of 2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-1,2,4-triazol-3-one

To a solution of the title compound of Step D (5.0 g, 26.0 mmol) and diphenylphosphoryl azide (6.2 mL, 28.6 mmol) in 130 mL of toluene at room temperature under a nitrogen atmosphere was added triethylamine (4.0 mL, 28.6 mmol). The resulting solution was heated at reflux for 6 h and then was stirred at room temperature overnight (14 h). The solvent was removed *in vacuo* and the dark orange oil thus obtained was purified by chromatography to give the title compound of Step E (4.5 g, 91%) as a light brown solid melting at 145-147°C. ^{1}H NMR ($CDCl_3$): δ 2.28 (s,3H), 2.33 (s,3H), 7.30-7.44 (m,4H).

Step F: Preparation of 2,4-dihydro-4,5-dimethyl-2-(2-methylphenyl)-3*H*-1,2,4-triazol-3-one

To a solution of the title compound of Step E (1.2 g, 6.3 mmol) and iodomethane (1.0 mL, 16.1 mmol) in 150 mL of THF under a nitrogen atmosphere at 0°C was added sodium hydride (0.75 g, 60% oil dispersion, 18.8 mmol). The resulting mixture was stirred at room temperature for 3 h and worked up by quenching with ice. The aqueous phase was extracted with ethyl acetate (3 x 100 mL). The combined organic extracts were dried ($MgSO_4$) and filtered, and the solvent was removed *in vacuo* to afford the title compound of Step F (1.20 g, 93%). ^{1}H NMR ($CDCl_3$): δ 2.29 (s,3H), 2.31 (s,3H), 3.37 (s,3H), 7.23-7.34 (m,4H).

Step G: Preparation of 2-[2-(bromomethyl)phenyl]-2,4-dihydro-4,5-dimethyl-3*H*-1,2,4-triazol-3-one

A solution of the title compound of Step F (0.9 g , 4.4 mmol), *N*-bromosuccinimide (0.86 g, 4.9 mmol), and benzoyl peroxide (30 mg) in 20 mL of carbon tetrachloride was heated at reflux for 10 h. The solvent was removed *in vacuo* and the residue purified by chromatography to give, along with 5-(bromomethyl)-2,4-

dihydro-4-methyl-2-(2-methylphenyl)-3H-1,2,4-triazol-3-one, the title compound of Step G (0.67 g, 54%) as a colorless oil. ^{1}H NMR ($CDCl_3$): δ 2.31 (s,3H), 3.32 (s,3H), 4.68 (s,2H), 7.30-7.48 (m,4H).

Step H: Preparation of 2,4-dihydro-4,5-dimethyl-2-[2-[[[[1-[3-(trimethylgermyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one

To a solution of the title compound of Step G (100 mg, 0.3 mmol) and the title compound of Step C (90 mg, 0.3 mmol) in 7 mL of DMF under a nitrogen atmosphere at 0°C was added sodium hydride (21 mg, 60% dispersion in oil, 0.5 mmol). The resulting suspension was stirred at room temperature for 5 h. The reaction mixture was then quenched with ice (20 g) and extracted with ethyl acetate (3 x 50 mL). The combined organic extracts were dried ($MgSO_4$) and filtered, and the solvent removed *in vacuo*. The residue was purified by column chromatography to give 80 mg of the title compound of Step H, a compound of the invention, as a colorless oil. ^{1}H NMR ($CDCl_3$): δ 0.39 (s,9H), 2.23 (s,3H), 2.24 (s,3H), 3.24 (s,3H), 5.36 (s,2H), 7.29-7.46 (m,5H), 7.53-7.60 (m,2H), 7.66 (s,1H).

EXAMPLE 3

Step A: Preparation of 1-(2-bromophenyl)-1,4-dihydro-5*H*-tetrazol-5-one

2-Bromophenyl isocyanate (8.6 g, 43.4 mmol) was added to azidotrimethylsilane (10 g, 86.9 mmol) at room temperature. The reaction mixture was then heated at reflux for 20 h, cooled to room temperature, and poured onto ice. The precipitates were filtered and washed twice with water. The solids were then recrystallized from 9:1/*n*-butyl chloride:acetonitrile to yield 4.7 g of the title compound of Step A as a solid melting at 143-145°C. ^{1}H NMR (Me_2SO-d_6; 300 MHz): δ 7.5-7.7 (m,3H), 7.9 (m,1H), 14.7 (br s,1H).

Step B: Preparation of 1,4-dihydro-1-methyl-4-(2-bromophenyl)-5*H*-tetrazol-5-one

Potassium carbonate (2.51 g, 18.2 mmol) was added portionwise to a solution of the title compound of Step A (4.4 g, 18.2 mmol) in 50 mL of dry *N*,*N*-dimethylformamide at room temperature. The mixture was then stirred at room temperature for 0.5 h. Iodomethane (3.11 g, 21.9 mmol) was then added at room temperature and the mixture was stirred at room temperature for 20 h. The reaction mixture was poured into water, extracted twice with diethyl ether and the combined extracts were dried over magnesium sulfate. The solvent was then removed by distillation under reduced pressure to give an oil. The oil was purified by silica gel chromatography using 2:1/hexanes:ethyl acetate as the eluent to yield 3.6 g of the title

compound of Step B as an oil. ^{1}H NMR ($CDCl_3$; 300 MHz): δ 3.73 (s,3H), 7.35-7.50 (m,3H), 7.76 (d,1H, J=7.9 Hz).

Step C: Preparation of 2-(4,5-dihydro-4-methyl-5-oxo-1*H*-tetrazol-1-yl)benzaldehyde

Under nitrogen, *n*-butyllithium (14.5 mL of a 2.5 M solution in hexanes, 36.3 mmol) was added dropwise to a solution of the title compound of Step B (8.4 g, 33 mmol) in 100 mL of dry tetrahydrofuran at -65°C. The mixture was then stirred at -65°C for 0.5 h. *N,N*-Dimethylformamide (2.64 g, 36 mmol) was then added at -65°C. The reaction mixture was gradually warmed to room temperature over 20 h. Water (50 mL) was added dropwise at room temperature. The reaction mixture was then extracted twice with diethyl ether and dried over magnesium sulfate. The solvent was then removed by distillation under reduced pressure to give a solid which was triturated twice with *n*-butyl chloride, and the solid was suction-dried to yield 2.85 g of the title compound of Step C. The filtrate was concentrated under reduced pressure to an oil which was purified by silica gel chromatography using 4:1/hexanes:ethyl acetate as the eluent to yield an additional 0.85 g of the title compound of Step C melting at 102-104°C. ^{1}H NMR ($CDCl_3$; 300 MHz): δ 3.75 (s,3H), 7.61 (d,1H, J=7.7Hz), 7.65 (t,1H, J=7.6Hz), 7.78 (t,1H, J=7.6Hz), 8.06 (d,1H, J=7.7Hz), 10.05 (s,1H).

Step D: Preparation of 1,4-dihydro-1-[2-(hydroxymethyl)phenyl]-4-methyl-5*H*-tetrazol-5-one

To a stirred solution of the title compound of Step C (0.5 g, 2.45 mmol) in 25 mL of ethanol was added sodium borohydride (0.06 g, 1.47 mmol) in one portion at 10°C. The mixture was stirred at room temperature for 20 h. The solvent was removed by distillation under reduced pressure to give an oil which was diluted with water (30 mL) and extracted twice with methylene chloride. The combined extracts were dried over magnesium sulfate and the solvent was removed by distillation under reduced pressure to give 0.44 g of the title compound of Step D. ^{1}H NMR ($CDCl_3$; 300 MHz): δ 3.49 (t,1H, J=7.0Hz), 3.75 (s,3H), 4.54 (d,1H, J=6.9Hz), 7.40-7.60 (m,3H), 7.65 (m,1H).

Step E: Preparation of 1,4-dihydro-1-methyl-4-[2-[[(methylsulfonyl)oxy]methyl]phenyl]-5*H*-tetrazol-5-one

Under nitrogen, to a solution of the title compound of Step D (2 g, 9.71 mmol) and triethylamine (1.18 g, 11.7 mmol) in 25 mL of dry tetrahydrofuran was added dropwise methanesulfonyl chloride (1.20 g, 11.7 mmol) at 0°C. The resulting suspension was stirred at room temperature for 3 h and was then heated at reflux for 2 h. The reaction mixture was then cooled to room temperature and the solvent was removed by

distillation under reduced pressure to give an oil. The oil was diluted with water (25 mL), extracted twice with methylene chloride and the combined extracts were dried over magnesium sulfate. The solvent was then removed by distillation under reduced pressure to give 2 g of the title compound of Step E as an oil. ^{1}H NMR ($CDCl_3$; 300 MHz): δ 2.88 (s,3H), 3.73 (s,3H), 5.33 (s,2H), 7.5-7.7 (m,4H).

Step F: Preparation of 1-[3-(trifluoromethyl)phenyl]ethanone oxime

1-[3-(Trifluoromethyl)phenyl]ethanone (25 g, 13.3 mmol) was combined in a single neck round bottom flask with hydroxylamine hydrochloride (15.3 g, 22.0 mmol) in 200 mL of methanol under a nitrogen atmosphere. To this stirred mixture at room temperature was added sodium acetate (36.4 g, 44.4 mmol) portionwise. A white precipitate formed after the addition of sodium acetate. The mixture was heated under reflux for two hours and was then cooled to room temperature. The solvent was removed under reduced pressure and the resulting white solid was partitioned between saturated ammonium chloride solution (200 mL) and methylene chloride (300 mL). The organic layer was separated and washed with water (200 mL). After drying over $MgSO_4$, the organic layer was concentrated under reduced pressure to afford 26.6 g of the title compound of Step F as a white solid melting at 56-62 °C. ^{1}H NMR ($CDCl_3$): δ 8.36 (br s,1H), 7.89 (d,1H, J=0.5Hz), 7.81 (d,1H, J=8.0Hz), 7.63 (d,1H, J=8.0Hz), 7.53-7.49 (m,1H), 2.32 (s,3H).

Step G: Preparation of 1,4-dihydro-1-methyl-4-[2-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-5*H*-tetrazol-5-one

Under nitrogen, to a solution of the title compound of Step F (0.79 g, 3.9 mmol) in 25 mL of dry *N*,*N*-dimethylformamide was added sodium hydride (0.15 g of 60% oil dispersion, 3.9 mmol) portionwise at room temperature. The reaction mixture was stirred at room temperature for 0.5 h. The title compound of Step E (1 g, 3.52 mmol) was then added at room temperature and the reaction mixture was stirred at room temperature for 20 h. The reaction mixture was then poured into water (25 mL), extracted twice with diethyl ether and the combined extracts were dried over magnesium sulfate. The solvent was then removed by distillation under reduced pressure to give an oil which was purified by silica gel chromatography using 4:1/hexanes:ethyl acetate as the eluent to yield 0.85 g of the title compound of Step G, a compound of the invention, as an oil. ^{1}H NMR ($CDCl_3$; 300 MHz): δ 2.18 (s,3H), 3.64 (s,3H), 5.34 (s,2H), 7.40-7.60 (m,4H), 7.60-7.65 (m,2H), 7.76 (d,1H, J=7.9Hz).

EXAMPLE 4

Step A: Preparation of 2-(1,4-dihydro-4-methyl-5-oxo-1*H*-tetrazol-1-yl)benzaldehyde oxime

To a stirred solution of the title compound of Step C in Example 3 (1.14 g, 5.59 mmol) in 25 mL of methanol was added hydroxylamine hydrochloride (0.47 g, 6.71 mmol). The reaction mixture was heated at reflux for 2 h and then cooled to room temperature. The solvent was removed by distillation under reduced pressure to give an oily solid which was diluted with water (30 mL), extracted twice with methylene chloride and the combined extracts were dried over magnesium sulfate. The solvent was removed by distillation under reduced pressure to yield 1.2 g of the title compound of Step A as an oil. ^{1}H NMR ($CDCl_3$; 300 MHz): δ 3.73 (s,3H), 7.4-7.6 (m,3H), 7.8 (m,2H), 8.12 (s,1H).

Step B: Preparation of 2-(1,4-dihydro-4-methyl-5-oxo-1*H*-tetrazol-1-yl)benzaldehyde *O*-[[3-(trifluoromethyl)phenyl]methyl]oxime

Under nitrogen, to a suspension of sodium hydride (0.17 g of 60% oil dispersion, 4.07 mmol) in 25 mL of *N*,*N*-dimethylformamide was added the title compound of Step A (0.81 g, 3.70 mmol) at room temperature. The reaction mixture was stirred at room temperature for 0.5 h. Then α'-bromo-α,α,α-trifluoro-*m*-xylene (0.97 g, 4.07 mmol) was added at room temperature. The reaction mixture was stirred at room temperature for 20 h. The reaction mixture was poured into water (25 mL), extracted twice with diethyl ether and the combined extracts were dried over magnesium sulfate. The solvent was then removed by distillation under reduced pressure to give an oil which was purified by silica gel chromatography using 1:1/hexanes:ethyl acetate as the eluent to yield 0.80 g of the title compound of Step B, a compound of the invention. ^{1}H NMR ($CDCl_3$; 300 MHz): δ 3.67 (s,3H), 5.21 (s,2H), 7.4-7.6 (m,6H), 7.63 (s,1H), 7.95 (m,1H), 8.15 (s,1H).

EXAMPLE 5

Step A: Preparation of 1-[3-(trifluoromethoxy)phenyl]ethanone oxime

To a stirring solution of 70.0 g of 3-(trifluoromethoxy)acetophenone in 350 mL of methanol under N_2 was added 26.04 g of hydroxylamine hydrochloride and 30.91 g of sodium acetate. The reaction mixture was stirred overnight, and then was concentrated under reduced pressure. The resulting material was diluted with diethyl ether, washed successively with distilled water, saturated aqueous $NaHCO_3$, and saturated aqueous NaCl. The organic layer was dried over $MgSO_4$, and then concentrated under reduced pressure to give 73 g of the title compound of Step A as an oil. (^{1}H NMR shows this oil to be approximately 87% pure containing approximately 13% of the dimethyl acetal.)

^{1}H NMR ($CDCl_3$): δ 8.75 (s,1H), 7.55 (d,1H), 7.5 (s,1H), 7.45 (t,1H), 7.25 (d,1H), 2.30 (s,3H).

Step B: Preparation of 1-methyl-4-[2-[[[[1-[3-(trifluoromethoxy)phenyl]-ethylidene]amino]oxy]methyl]phenyl]-1,2,4-triazolidine-3,5-dione

The title compound of Step A (73.0 g) was dissolved in 500 mL of tetrahydrofuran under N_2 and to this with stirring was added portionwise, over 15 minutes, 13.32 g of 60% sodium hydride. The reaction mixture was allowed to stir for 5 minutes, and then 65.79 g of the title compound of Step B in Example 1 was added portionwise over 10 minutes. The reaction mixture was stirred overnight, and then heated at reflux for 1 hour. To this mixture was then added 97 mL of 30% sodium methoxide in methanol and the reaction was refluxed another 1.5 hours. After cooling, the reaction mixture was partitioned between diethyl ether and distilled water, the aqueous layer (now basic) was collected, washed with methylene chloride, neutralized with 6N aqueous HCl, and then extracted with ethyl acetate. The ethyl acetate layer was washed with saturated aqueous NaCl, dried over $MgSO_4$, and then concentrated under reduced pressure to give 12.85 g, of the title compound of Step B. ^{1}H NMR ($CDCl_3$): δ 7.4-7.65 (m,5H), 7.25-7.4 (m,2H), 7.2 (d,1H), 5.27 (s,2H), 3.12 (s,3H), 2.19 (s,3H).

Step C: Preparation of 1-methyl-2-(2-propyn-1-yl)-4-[2-[[[[1-[3-(trifluoromethoxy)phenyl]ethylidene]amino]oxy]methyl]phenyl]-1,2,4-triazolidine-3,5-dione

To a stirring solution of 1.0 g of the title compound of Step B in 10 mL of tetrahydrofuran under N_2 was added 0.11 g of 60% sodium hydride and then 0.31 mL of 80% propargyl bromide (in toluene). The reaction mixture was stirred overnight, and then was washed successively with distilled water and saturated aqueous NaCl. The organic layer was dried over $MgSO_4$ and then was concentrated under reduced pressure. Column chromatography gave 0.52 g of the title compound of Step C, a compound of the invention, as an oil. ^{1}H NMR ($CDCl_3$): δ 7.25-7.6 (m,7H), 7.2 (d,1H), 5.25 (s,2H), 4.35 (d,2H), 3.25 (s,3H), 2.3 (t,1H), 2.19 (s,3H).

EXAMPLE 6

Step A: Preparation of 1-[3-(trifluoromethyl)phenyl]ethanone oxime

To a solution of 25 g of 3-(trifluoromethyl)acetophenone in 200 mL of pyridine under a nitrogen atmosphere was added 10.2 g of hydroxylamine hydrochloride. The solution was heated under reflux for 6 h and then the solvent was removed *in vacuo*. The resulting residue was taken up in 10% aqueous HCl and extracted with three 150 mL portion of ethyl acetate. The combined organic phases were dried ($MgSO_4$), filtered and concentrated *in vacuo* to provide an oil which solidified on standing.

Trituration of this solid in hexanes provided 24.9 g of the title compound of Step A as a white solid melting at 65-66 °C.

Step B: Preparation of 1-[3-(trifluoromethyl)phenyl]ethanone *O*-[(2-nitrophenyl)methyl]oxime

To a suspension of 4.92 g of NaH (60% oil dispersion) in 150 mL of tetrahydrofuran was added portionwise 24.9 g of the title compound of Step A. Gas evolution occurred and the resulting mixture was stirred at room temperature for 4.5 h. Then, 25.2 g of *o*-nitrobenzyl chloride was added. The solids dissolved to give a solution and then a new precipitate formed. The mixture was stirred overnight at room temperature. The solvent was removed *in vacuo* and the residue was taken up in ice water and ether, 30 mL of 1N NaOH was then added and the phases were separated. The organic phase was dried ($MgSO_4$), filtered and concentrated *in vacuo* to provide 39.4 g of the title compound of Step B as a pale reddish oil. ^1H NMR ($CDCl_3$): δ 8.05 (d,1H), 7.85 (s,1H), 7.8 (d,1H), 7.6 (m,2H), 7.45 (m,2H), 5.7 (s,2H), 2.3 and 2.35 (2s,3H total).

Step C: Preparation of 1-[3-(trifluoromethyl)phenyl]ethanone *O*-[(2-aminophenyl)methyl]oxime

To a solution of 39.2 g of the title compound of Step B in 500 mL of acetic acid and 50 mL of water at >75 °C was added portionwise 21.4 g of iron powder while keeping the reaction temperature between 80-90 °C. The reaction mixture was stirred at 80-90° C for 5 min, filtered hot through filter paper onto ice, diluted with 500 mL of water and extracted twice with 500 mL portions of dichloromethane. The combined organic extracts were washed twice with 500 mL portions of water, twice with 500 mL portions of saturated $NaHCO_3$ solution, dried ($MgSO_4$), filtered and concentrated *in vacuo* to provide 32 g of an oil. This crude oil was dissolved in 300 mL of tetrahydrofuran and 110 mL of 1N HCl in ether was added dropwise resulting in formation of a precipitate. The mixture was stirred for 30 min and then filtered. Additional precipitate was obtained by removing the solvents and slurrying the residue in ether. The combined precipitates were suspended in dichloromethane and treated with 120 mL of 1N NaOH and the solids dissolved. The phases were separated and the aqueous phase was extracted with dichloromethane. The combined organic phases were dried ($MgSO_4$), filtered and concentrated *in vacuo* to provide 24.9 g of an amber oil which solidified on standing. This solid was recrystallized from hexane to give 18.7 g of the title compound of Step C as a tan solid melting at 67-69 °C.

Step D: Preparation of 1-methyl-*N*-[2-[[[[1-1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]hydrazine-carboxamide

To a stirring solution of 5.0 g of the title compound of Step C in 35 mL of ethyl acetate at 5 °C under N_2 was added 2.41 g of triphosgene. The reaction mixture was heated at reflux for 2 h, and then was allowed to cool. The reaction was then concentrated under reduced pressure and the residue was dissolved in 35 mL of toluene. The resulting solution was cooled to 5 °C and 0.84 mL of methylhydrazine was slowly added. After the addition, the ice bath was removed, and the reaction was allowed to stir for 10 min and then was again concentrated under reduced pressure. Column chromatography on silica gel using 50-70% ethyl acetate in hexanes as eluant gave 5.05 g of the title compound of Step D as a solid. ^{1}H NMR ($CDCl_3$): δ 9.3 (s,1H), 8.05 (d,1H), 7.95 (s,1H), 7.8 (d,1H), 7.6 (d,1H), 7.5 (t,1H), 7.35 (m,2H), 7.05 (t,1H), 5.23 (s,2H), 3.69, (s,2H), 3.23 (s,3H), 2.26 (s,3H).

Step E: Preparation of 2,4-dihydro-2,5-dimethyl-4-[2-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one

The title compound of Step D (1.25 g) was dissolved in 5 mL of trimethyl orthoacetate and to this solution was added 3 drops of acetic acid and the solution was heated at reflux overnight. The reaction mixture was then concentrated under reduced pressure and dissolved in ethyl acetate. The ethyl acetate solution was washed successively with 1 N aqueous HCl, saturated aqueous $NaHCO_3$ and saturated aqueous NaCl. The organic layer was dried over $MgSO_4$ and then was concentrated under reduced pressure. Column chromatography using 60-70% ethyl acetate in hexanes as eluant gave 0.42 g of the title compound of Step E, a compound of the invention, as an oil. (This desired product has the same R_f as the starting material). ^{1}H NMR ($CDCl_3$): δ 7.85 (s,1H), 7.75 (d,1H), 7.6 (m,2H), 7.45 (m,3H), 7.2 (d,1H), 5.2 (m,2H), 3.5 (s,3H), 2.2 (s,3H), 2.0 (s,3H).

EXAMPLE 7

Step A: Preparation of 2-(3-bromophenyl)-2-methyl-1,3-dioxolane

1-(3-Bromophenyl)ethanone (35 g, 0.18 mol), ethylene glycol (39 mL, 0.70 mol), and *p*-toluenesulfonic acid (0.5 g) were dissolved in toluene (300 mL) and heated to reflux in a Dean-Stark apparatus. After six hours, water and some ethylene glycol had separated and the mixture was cooled and washed with water and saturated aqueous sodium bicarbonate solution. Drying ($MgSO_4$) and concentrating the organic phase gave

the title compound of Step A as an oil (44 g, 99% yield). ^{1}H NMR ($CDCl_3$): δ 7.64 (m,1H), 7.39 (m,2H), 7.21 (t,1H), 4.04 (m,2H), 3.76 (m,2H), 1.63 (s,3H).

Step B: Preparation of 1-[3-(trimethylsilyl)phenyl]ethanone

A flame-dried flask was charged with magnesium pieces (5.3 g, 0.22 mole) and tetrahydrofuran (50 mL) under a nitrogen atmosphere. To this vigorously stirred slurry was added dropwise the title compound of Step A (44 g, 0.18 mole) in THF (150 mL). The reaction mixture was warmed to 40°C during the addition and then to 65°C for 1.5 hours after the addition was complete. After cooling the solution to room temperature, trimethylsilyl chloride (28 mL, 0.22 mole) was added dropwise over 15 minutes and the reaction was allowed to stir for 16 hours. The reaction suspension was cooled to 10°C and was then treated with saturated aqueous ammonium chloride solution and extracted with diethyl ether. The combined organic phases were dried ($MgSO_4$) and concentrated to give the intermediate silylated ketal. This crude intermediate was dissolved in acetone (180 mL) and treated with 1N hydrochloric acid solution (18 mL) at reflux for 2 hours. After cooling, saturated aqueous sodium bicarbonate solution (180 mL) was added carefully and the mixture was extracted with methylene chloride. The combined organic phases were dried ($MgSO_4$) and concentrated to give the title compound of Step B as a yellow oil (34 g, 99% yield). ^{1}H NMR ($CDCl_3$): δ 8.10 (s,1H), 7.91 (m,1H), 7.73 (m,1H), 7.45 (t,1H), 2.62 (s,3H), 0.30 (s,9H).

Step C: Preparation of 1-[3-(trimethylsilyl)phenyl]ethanone oxime

The title compound of Step B (34 g, 0.18 mol) was dissolved in methanol (175 mL) and treated with a solution of hydroxylamine hydrochloride (19 g, 0.28 mol) and sodium acetate (38 g, 0.28 mol) in water (130 mL). The mixture was heated at reflux for 2.5 hours, cooled, and extracted with methylene chloride. The combined organic phases were dried ($MgSO_4$), concentrated, and the resulting residue was chromatographed on silica gel with 10% ethyl acetate/hexane as eluent. The title compound of Step C was isolated as a colorless oil (30 g, 80% yield). ^{1}H NMR ($CDCl_3$): δ 9.27 (s,1H), 7.77 (s,1H), 7.56 (m,2H), 7.37 (t,1H), 2.32 (s,3H), 0.29 (s,9H).

Step D: Preparation of 1,4-dihydro-1-methyl-4-[2-[[[[1-[3-(trimethylsilyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-5*H*-tetrazol-5-one

Under N_2, the title compound of Step C (0.39 g; 1.85 mol) was added to a stirred suspension of sodium hydride (0.08 g 60% oil dispersion; 2.03 mmol) in 25 mL of dry DMF. The reaction mixture was stirred at room temperature for 1 h. The title compound of Step E in Example 3 (0.50 g; 1.76 mmol) was then added. The reaction

mixture was stirred at room temperature for 16 h and was then poured into H_2O (100 mL) and the aqueous mixture was extracted twice with diethyl ether. The combined organic layers were washed with saturated aqueous NaCl and dried with magnesium sulfate. The organic solvent was removed under reduced pressure to afford an oil which was purified by column chromatography using 4:1/hexanes:ethyl acetate as eluent to afford 0.37 g of the title compound of Step D, a compound of the invention, as an oil. ^{1}H NMR ($CDCl_3$): δ 0.27 (s,9H), 2.17 (s,3H), 3.61 (s,3H), 5.32 (s,2H), 7.35 (m,1H), 7.4-7.6 (m,5H), 7.60 (m,1H), 7.68 (s,1H).

EXAMPLE 8

Step A: Preparation of 1-(Bromomethyl)-2-iodobenzene

To a stirred solution of 2-iodobenzyl alcohol (50 g, 214 mmol) in diethyl ether (500 mL) cooled in an ice water bath was added via addition funnel phosphorus tribromide (26 mL, 277 mmol) and the resulting mixture was chilled in a refrigerator for 3.5 h. The reaction mixture was quenched by the addition of 50 mL of methanol and washed with water, saturated sodium bicarbonate solution and then water. The organic phase was dried ($MgSO_4$) and concentrated under reduced pressure to afford a white solid. The solid was triturated with hexane and collected by filtration to afford the title compound of Step A (57.95 g) as a solid melting at 55-57 °C.

Step B: Preparation of 1-iodo-2-[(2-methylphenoxy)methyl]benzene

To a solution of *o*-cresol (21.1 g, 195 mmol) in tetrahydrofuran (500 mL) was added portionwise sodium hydride (7.8 g, 240 mmol, 60% oil dispersion, washed with hexanes) with ice water bath cooling. The resulting mixture was stirred at room temperature 20 min, the title compound of Step A (57.95 g, 195 mmol) was added and the mixture was then heated to 60 °C overnight. An additional portion of sodium hydride (2 g) was added and heating was resumed for 3 h. The reaction mixture was cooled, quenched with water and the phases were separated. The aqueous phase was extracted twice with diethyl ether and the combined organic phases, after drying ($MgSO_4$), were concentrated under reduced pressure. The residue was triturated in hexanes to afford the title compound of Step B (59.14 g) as a solid melting at 45-48 °C.

Step C: Preparation of methyl α-methyl-2-[(2-methylphenoxy)methyl]benzeneacetate

To a suspension of sodium hydride (14.5 g, 363 mmol, 60% oil dispersion, washed with hexanes) in *N,N'*-dimethylpropyleneurea (200 mL) was added dimethyl malonate (41.6 mL, 363 mmol) dropwise with ice water bath cooling. The resulting mixture was stirred at room temperature for 20 min and then the title compound of Step B (59.1 g, 182 mmol) and cuprous iodide (69 g, 363 mmol) were added. The

mixture was heated to 140 °C overnight and was then stirred at room temperature for 24 h. The reaction mixture was diluted with 400 mL of 1N HCl and extracted four times with diethyl ether. The combined extracts were dried ($MgSO_4$) and concentrated under reduced pressure. Chromatography of the residue, an oil, on silica gel with 7:1 hexane-ethyl acetate afforded the title compound of Step C, the fourth-eluting component, (5.45 g) as an oil. 300 MHz ^1H NMR ($CDCl_3$): δ 1.52(d,3H), 2.24(s,3H), 3.63(s,3H), 4.07(q,1H), 5.03(d,1H), 5.21(d,1H), 6.9(m,2H), 7.17(d,2H).

Step D: Preparation 2,4-dimethyl-4-[2-[(2-methylphenoxy)methyl]phenyl]-3,5-pyrrolidinedione

To a solution of the title compound of Step C (2.84 g, 10 mmol) in tetrahydrofuran (75 mL) was added, with ice water bath cooling, lithium diisopropyl amide (6.7 mL of a 1.5 M solution in cyclohexane/tetrahydrofuran, 10 mmol). The reaction mixture was stirred 1h and 1,1'-carbonyldiimidazole (1.62 g, 10 mmol) was added which resulted in formation of a precipitate. the mixture was stirred 1 h, and methylhydrazine (461 mg, 10 mmol) was added and the resulting mixture was stirred at room temperature overnight. The reaction mixture was diluted with 1N HCl, the phases were separated, and the aqueous phases were extracted with ethyl acetate. The combined extracts were dried ($MgSO_4$) and concentrated under reduced pressure. The residue was triturated in 1-chlorobutane which afforded the title compound of Step D (1.35 g) as a tan solid melting at 125-129 °C.

Step E: Preparation 2,4-dihydro-5-methoxy-2,4-dimethyl-4-[2-[(2-methylphenoxy)methyl]phenyl]-3*H*-pyrazol-3-one

To a solution of the title compound of Step D (960 mg, 3 mmol) in dichloromethane (50 mL) was added, with ice water bath cooling, tetramethyloxonium tetrafluoroborate (1.5 g, 10 mmol). The mixture was allowed to warm to room temperature and was stirred overnight. The reaction mixture was washed twice with saturated sodium bicarbonate solution. The aqueous phases were back-extracted with dichloromethane. The combined organic extracts were dried ($MgSO_4$) and concentrated under reduced pressure. Chromatography of the residue, an oil, on silica gel with 4:1 hexane-ethyl acetate afforded the title compound of Step E as an oil. The oil was triturated in hexane/1-chlorobutane to afford the title compound of Step E, a compound of the invention, (340 mg) as a solid melting at 147-150 °C.

By the procedures described herein together with methods known in the art, the following compounds of Tables 1 to 62 can be prepared. The following abbreviations are used in the Tables which follow: *t* = tertiary, *n* = normal, *i* = iso, *c* = cyclo, Me = methyl, Et = ethyl, Pr = propyl, *i*-Pr = isopropyl, Bu = butyl, hex = hexyl,

Ph = phenyl, nap = naphthalenyl, MeO and OMe = methoxy, EtO = ethoxy, PhO and OPh = phenoxy, MeS and SMe = methylthio, CN = cyano, NO_2 = nitro, TMS = trimethylsilyl, TBDMS = *t*-BuMe_2Si, and SO_2Me = methylsulfonyl.

Table 1

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, W = O, Y = $CH_2ON{=}C(CH_3)$, Z = 3-CF_3-Ph,

R^2 = Me

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
$H_2C{=}CHCH_2NH$	O	$H_2C{=}CHCH_2$	O	$H_2C{=}CHCH_2NH$	S	$H_2C{=}CHCH_2$	S
$HC{\equiv}CCH_2NH$	O	$HC{\equiv}CCH_2$	O	$HC{\equiv}CCH_2NH$	S	$HC{\equiv}CCH_2$	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
$H_2C{=}CHCH_2NH$	O	$H_2C{=}CHCH_2$	O	$H_2C{=}CHCH_2NH$	S	$H_2C{=}CHCH_2$	S
$HC{\equiv}CCH_2NH$	O	$HC{\equiv}CCH_2$	O	$HC{\equiv}CCH_2NH$	S	$HC{\equiv}CCH_2$	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = *n*-Pr

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
$H_2C{=}CHCH_2NH$	O	$H_2C{=}CHCH_2$	O	$H_2C{=}CHCH_2NH$	S	$H_2C{=}CHCH_2$	S
$HC{\equiv}CCH_2NH$	O	$HC{\equiv}CCH_2$	O	$HC{\equiv}CCH_2NH$	S	$HC{\equiv}CCH_2$	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = H

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=CHCH_2NH	O	H_2C=CHCH_2	O	H_2C=CHCH_2NH	S	H_2C=CHCH_2	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Me

X	B	X	B	X	B	X	B
MeNH	NH	Me	NH	MeNH	NMe	Me	NMe
EtNH	NH	Et	NH	EtNH	NMe	Et	NMe
n-PrNH	NH	*n*-Pr	NH	*n*-PrNH	NMe	*n*-Pr	NMe
H_2C=CHCH_2NH	NH	H_2C=CHCH_2	NH	H_2C=CHCH_2NH	NMe	H_2C=CHCH_2	NMe
HC≡CCH_2NH	NH	HC≡CCH_2	NH	HC≡CCH_2NH	NMe	HC≡CCH_2	NMe
Me_2N	NH	CF_3	NH	Me_2N	NMe	CF_3	NMe
(*c*-propyl)NH	NH	(*c*-propyl)	NH	(*c*-propyl)NH	NMe	(*c*-propyl)	NMe

R^2 = H

X	B	X	B	X	B	X	B
MeNH	NH	Me	NH	MeNH	NMe	Me	NMe
EtNH	NH	Et	NH	EtNH	NMe	Et	NMe
n-PrNH	NH	*n*-Pr	NH	*n*-PrNH	NMe	*n*-Pr	NMe
H_2C=CHCH_2NH	NH	H_2C=CHCH_2	NH	H_2C=CHCH_2NH	NMe	H_2C=CHCH_2	NMe
HC≡CCH_2NH	NH	HC≡CCH_2	NH	HC≡CCH_2NH	NMe	HC≡CCH_2	NMe
Me_2N	NH	CF_3	NH	Me_2N	NMe	CF_3	NMe
(*c*-propyl)NH	NH	(*c*-propyl)	NH	(*c*-propyl)NH	NMe	(*c*-propyl)	NMe

Table 2

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, W = O, Y = CH_2ON=C(CH_3), Z = 3-CF_3-Ph,

R^2 = Me

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH

EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=CHCH_2NH	N	H_2C=CHCH_2	N	H_2C=CHCH_2NH	CH	H_2C=CHCH_2	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=CHCH_2NH	N	H_2C=CHCH_2	N	H_2C=CHCH_2NH	CH	H_2C=CHCH_2	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = *n*-Pr

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=CHCH_2NH	N	H_2C=CHCH_2	N	H_2C=CHCH_2NH	CH	H_2C=CHCH_2	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = H

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=CHCH_2NH	N	H_2C=CHCH_2	N	H_2C=CHCH_2NH	CH	H_2C=CHCH_2	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Me

X	A	X	A	X	A	X	A
MeNH	CMe	Me	CMe	MeNH	CEt	Me	CEt
EtNH	CMe	Et	CMe	EtNH	CEt	Et	CEt
n-PrNH	CMe	*n*-Pr	CMe	*n*-PrNH	CEt	*n*-Pr	CEt
H_2C=$CHCH_2NH$	CMe	H_2C=$CHCH_2$	CMe	H_2C=$CHCH_2NH$	CEt	H_2C=$CHCH_2$	CEt
HC≡CCH_2NH	CMe	HC≡CCH_2	CMe	HC≡CCH_2NH	CEt	HC≡CCH_2	CEt
Me_2N	CMe	CF_3	CMe	Me_2N	CEt	CF_3	CEt
(*c*-propyl)NH	CMe	(*c*-propyl)	CMe	(*c*-propyl)NH	CEt	(*c*-propyl)	CEt

R^2 = H

X	A	X	A	X	A	X	A
MeNH	CEt	Me	CEt	MeNH	CMe	Me	CMe
EtNH	CEt	Et	CEt	EtNH	CMe	Et	CMe
n-PrNH	CEt	*n*-Pr	CEt	*n*-PrNH	CMe	*n*-Pr	CMe
H_2C=$CHCH_2NH$	CEt	H_2C=$CHCH_2$	CEt	H_2C=$CHCH_2NH$	CMe	H_2C=$CHCH_2$	CMe
HC≡CCH_2NH	CEt	HC≡CCH_2	CEt	HC≡CCH_2NH	CMe	HC≡CCH_2	CMe
Me_2N	CEt	CF_3	CEt	Me_2N	CMe	CF_3	CMe
(*c*-propyl)NH	CEt	(*c*-propyl)	CEt	(*c*-propyl)NH	CMe	(*c*-propyl)	CMe

Table 3

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, W = O, Y = CH_2O, Z = 2-Me-Ph,

R^2 = Me

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S

EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = *n*-Pr

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = H

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Me

X	B	X	B	X	B	X	B
MeNH	NH	Me	NH	MeNH	NMe	Me	NMe
EtNH	NH	Et	NH	EtNH	NMe	Et	NMe
n-PrNH	NH	*n*-Pr	NH	*n*-PrNH	NMe	*n*-Pr	NMe
H_2C=$CHCH_2NH$	NH	H_2C=$CHCH_2$	NH	H_2C=$CHCH_2NH$	NMe	H_2C=$CHCH_2$	NMe
HC≡CCH_2NH	NH	HC≡CCH_2	NH	HC≡CCH_2NH	NMe	HC≡CCH_2	NMe
Me_2N	NH	CF_3	NH	Me_2N	NMe	CF_3	NMe
(*c*-propyl)NH	NH	(*c*-propyl)	NH	(*c*-propyl)NH	NMe	(*c*-propyl)	NMe

R^2 = H

X	B	X	B	X	B	X	B
MeNH	NH	Me	NH	MeNH	NMe	Me	NMe
EtNH	NH	Et	NH	EtNH	NMe	Et	NMe
n-PrNH	NH	*n*-Pr	NH	*n*-PrNH	NMe	*n*-Pr	NMe
H_2C=$CHCH_2NH$	NH	H_2C=$CHCH_2$	NH	H_2C=$CHCH_2NH$	NMe	H_2C=$CHCH_2$	NMe
HC≡CCH_2NH	NH	HC≡CCH_2	NH	HC≡CCH_2NH	NMe	HC≡CCH_2	NMe
Me_2N	NH	CF_3	NH	Me_2N	NMe	CF_3	NMe
(*c*-propyl)NH	NH	(*c*-propyl)	NH	(*c*-propyl)NH	NMe	(*c*-propyl)	NMe

Table 4

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, W = O, Y = CH_2O, Z = 2-Me-Ph,

R^2 = Me

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = *n*-Pr

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH

n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
$H_2C{=}CHCH_2NH$	N	$H_2C{=}CHCH_2$	N	$H_2C{=}CHCH_2NH$	CH	$H_2C{=}CHCH_2$	CH
$HC{\equiv}CCH_2NH$	N	$HC{\equiv}CCH_2$	N	$HC{\equiv}CCH_2NH$	CH	$HC{\equiv}CCH_2$	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

$R^2 = H$

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
$H_2C{=}CHCH_2NH$	N	$H_2C{=}CHCH_2$	N	$H_2C{=}CHCH_2NH$	CH	$H_2C{=}CHCH_2$	CH
$HC{\equiv}CCH_2NH$	N	$HC{\equiv}CCH_2$	N	$HC{\equiv}CCH_2NH$	CH	$HC{\equiv}CCH_2$	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

$R^2 = Me$

X	A	X	A	X	A	X	A
MeNH	CMe	Me	CMe	MeNH	CEt	Me	CEt
EtNH	CMe	Et	CMe	EtNH	CEt	Et	CEt
n-PrNH	CMe	*n*-Pr	CMe	*n*-PrNH	CEt	*n*-Pr	CEt
$H_2C{=}CHCH_2NH$	CMe	$H_2C{=}CHCH_2$	CMe	$H_2C{=}CHCH_2NH$	CEt	$H_2C{=}CHCH_2$	CEt
$HC{\equiv}CCH_2NH$	CMe	$HC{\equiv}CCH_2$	CMe	$HC{\equiv}CCH_2NH$	CEt	$HC{\equiv}CCH_2$	CEt
Me_2N	CMe	CF_3	CMe	Me_2N	CEt	CF_3	CEt
(*c*-propyl)NH	CMe	(*c*-propyl)	CMe	(*c*-propyl)NH	CEt	(*c*-propyl)	CEt

$R^2 = H$

X	A	X	A	X	A	X	A
MeNH	CMe	Me	CMe	MeNH	CEt	Me	CEt
EtNH	CMe	Et	CMe	EtNH	CEt	Et	CEt
n-PrNH	CMe	*n*-Pr	CMe	*n*-PrNH	CEt	*n*-Pr	CEt
$H_2C{=}CHCH_2NH$	CMe	$H_2C{=}CHCH_2$	CMe	$H_2C{=}CHCH_2NH$	CEt	$H_2C{=}CHCH_2$	CEt
$HC{\equiv}CCH_2NH$	CMe	$HC{\equiv}CCH_2$	CMe	$HC{\equiv}CCH_2NH$	CEt	$HC{\equiv}CCH_2$	CEt
Me_2N	CMe	CF_3	CMe	Me_2N	CEt	CF_3	CEt
(*c*-propyl)NH	CMe	(*c*-propyl)	CMe	(*c*-propyl)NH	CEt	(*c*-propyl)	CEt

Table 5

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, W = S, Y = $CH_2ON=C(CH_3)$, Z = 3-CF_3-Ph,

R^2 = Me

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
$H_2C=CHCH_2NH$	O	$H_2C=CHCH_2$	O	$H_2C=CHCH_2NH$	S	$H_2C=CHCH_2$	S
$HC\equiv CCH_2NH$	O	$HC\equiv CCH_2$	O	$HC\equiv CCH_2NH$	S	$HC\equiv CCH_2$	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

Table 6

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = S, Y = $CH_2ON=C(Me)$, Z = 3-CF_3-Ph,

R^2 = Me

X	X	X	X
MeNH	EtNH	*n*-PrNH	$H_2C=CHCH_2NH$
$HC\equiv CCH_2NH$	Me_2N	C_2F_5	CF_3CH_2NH
(*c*-propyl)NH	Me	Et	*n*-Pr
$H_2C=CHCH_2$	$HC\equiv CCH_2$	CF_3	(*c*-propyl)

Table 7

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, W = S, Y = CH_2O, Z = 2-Me-Ph,

R^2 = Me

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
$H_2C=CHCH_2NH$	O	$H_2C=CHCH_2$	O	$H_2C=CHCH_2NH$	S	$H_2C=CHCH_2$	S
$HC\equiv CCH_2NH$	O	$HC\equiv CCH_2$	O	$HC\equiv CCH_2NH$	S	$HC\equiv CCH_2$	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

Table 8

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = S, Y = CH_2O, Z = 2-Me-Ph,

R^2 = Me

X	X	X	X
MeNH	EtNH	*n*-PrNH	H_2C=$CHCH_2NH$
HC≡CCH_2NH	Me_2N	C_2F_5	CF_3CH_2NH
(*c*-propyl)NH	Me	Et	*n*-Pr
H_2C=$CHCH_2$	HC≡CCH_2	CF_3	(*c*-propyl)

Table 9

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, B = W = O, X = MeNH, R^2 = Me, Y = CH_2ON=C(Me), Z = 3-CF_3-Ph,

R^3	R^4	R^3	R^4	R^3	R^4
3-F	H	5-NO_2	H	3-F	5-F
5-F	H	6-Me	H	3-Cl	5-Cl
3-Cl	H	3-Me	H	4-Me	5-Cl
4-Cl	H	4-MeO	H	3-F	5-CF_3
5-Br	H	5-CF_3O	H	3-Cl	5-NO_2
4-CF_3	H	5-allyl	H	6-CF_3O	H
5-CN	H	4-propargyl	H	5-*n*-Pr	H

Table 10

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O, X = MeNH, R^2 = Me, Y = CH_2ON=C(Me), Z = 3-CF_3-Ph,

R^3	R^4	R^3	R^4	R^3	R^4
3-F	H	5-NO_2	H	3-F	5-F
5-F	H	6-Me	H	3-Cl	5-Cl
3-Cl	H	3-Me	H	4-Me	5-Cl
4-Cl	H	4-MeO	H	3-F	5-CF_3
5-Br	H	5-CF_3O	H	3-Cl	5-NO_2
4-CF_3	H	5-allyl	H	6-CF_3O	H
5-CN	H	4-propargyl	H	5-*n*-Pr	H

Table 11

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, W = O, X = MeNH, R^2 = Me, Z = Ph,

B = O

Y	Y	Y	Y	Y
S	CH_2CH_2	CH(Me)O	SCH_2	C(Me)=N-O
CH=CH	$CH(Me)CH_2$	OCH_2	SCH(Me)	O-N=CH
C(Me)=CH	$CH_2CH(Me)$	OCH(Me)	CH_2O-N=CH	O-N=C(Me)
CH=C(Me)	CH(Me)CH(Me)	CH_2S	CH_2O-N=C(Me)	$CH_2OC(=O)$
C(Me)=C(Me)	CH_2O	CH(Me)S	CH=N-O	CH(Me)OC(=O)
direct bond	C≡C			

B = S

Y	Y	Y	Y	Y
S	CH_2CH_2	CH(Me)O	SCH_2	C(Me)=N-O
CH=CH	$CH(Me)CH_2$	OCH_2	SCH(Me)	O-N=CH
C(Me)=CH	$CH_2CH(Me)$	OCH(Me)	CH_2O-N=CH	O-N=C(Me)
CH=C(Me)	CH(Me)CH(Me)	CH_2S	CH_2O-N=C(Me)	$CH_2OC(=O)$
C(Me)=C(Me)	CH_2O	CH(Me)S	CH=N-O	CH(Me)OC(=O)
direct bond	C≡C			

B = NMe

Y	Y	Y	Y	Y
S	CH_2CH_2	CH(Me)O	SCH_2	C(Me)=N-O
CH=CH	$CH(Me)CH_2$	OCH_2	SCH(Me)	O-N=CH
C(Me)=CH	$CH_2CH(Me)$	OCH(Me)	CH_2O-N=CH	O-N=C(Me)
CH=C(Me)	CH(Me)CH(Me)	CH_2S	CH_2O-N=C(Me)	$CH_2OC(=O)$
C(Me)=C(Me)	CH_2O	CH(Me)S	CH=N-O	CH(Me)OC(=O)
direct bond	C≡C			

Table 12

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, W = O, X = MeNH, R^2 = Me, Z = Ph,

A = N

Y	Y	Y	Y	Y
S	CH_2CH_2	CH(Me)O	SCH_2	C(Me)=N-O
CH=CH	$CH(Me)CH_2$	OCH_2	SCH(Me)	O-N=CH

C(Me)=CH	$CH_2CH(Me)$	OCH(Me)	CH_2O-N=CH	O-N=C(Me)
CH=C(Me)	CH(Me)CH(Me)	CH_2S	CH_2O-N=C(Me)	$CH_2OC(=O)$
C(Me)=C(Me)	CH_2O	CH(Me)S	CH=N-O	CH(Me)OC(=O)
direct bond	C≡C			

Table 13

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, W = O, X = Me_2N, R^2 = Me, Z = Ph,

A = N

Y	Y	Y	Y	Y
S	CH_2CH_2	CH(Me)O	SCH_2	C(Me)=N-O
CH=CH	$CH(Me)CH_2$	OCH_2	SCH(Me)	O-N=CH
C(Me)=CH	$CH_2CH(Me)$	OCH(Me)	CH_2O-N=CH	O-N=C(Me)
CH=C(Me)	CH(Me)CH(Me)	CH_2S	CH_2O-N=C(Me)	$CH_2OC(=O)$
C(Me)=C(Me)	CH_2O	CH(Me)S	CH=N-O	CH(Me)OC(=O)
direct bond	C≡C			

Table 14

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, W = O, X = Et, R^2 = Me, Z = Ph,

A = N

Y	Y	Y	Y	Y
S	CH_2CH_2	CH(Me)O	SCH_2	C(Me)=N-O
CH=CH	$CH(Me)CH_2$	OCH_2	SCH(Me)	O-N=CH
C(Me)=CH	$CH_2CH(Me)$	OCH(Me)	CH_2O-N=CH	O-N=C(Me)
CH=C(Me)	CH(Me)CH(Me)	CH_2S	CH_2O-N=C(Me)	$CH_2OC(=O)$
C(Me)=C(Me)	CH_2O	CH(Me)S	CH=N-O	CH(Me)OC(=O)
direct bond	C≡C			

Table 15

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, W = O, X = MeNH, R^2 = Me, Y = O, B = O

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC≡CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl

2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = CH_2O, B = O

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph

(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = O, B = NMe

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl

4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = CH_2O, B = NMe

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
PhO$(CH_2)_3$	PhCH=$CHCH_2$	PhC≡CCH_2	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
PhCH_2CH_2	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl

3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Table 16

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, B = O, W = O, X = MeNH, R^2 = Me,

Y = $CH_2ON{=}C(CH_3)$.

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl

3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Table 17

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, B = NMe, W = O, X = MeNH, R^2 = Me,

Y = $CH_2ON{=}C(CH_3)$,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Table 18

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O, X = MeNH, R^2 = Me,

Y = $CH_2ON=C(CH_3)$,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = CH_2O.

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Table 19

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O, X = NMe_2, R^2 = Me,

Y = $CH_2ON=C(CH_3)$,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = CH_2O,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Table 20

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O, X = Et, R^2 = Me, Y = $CH_2ON=C(CH_3)$,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	(*c*-propyl)CH_2

2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = CH_2O,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph

4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Table 21

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O, X = MeNH, R^2 = Me,

Y = $CH_2ON=C(H)$,

Z	Z	Z	Z
2-Me-Ph	3-Me-Ph	3-CF_3-Ph	3-Cl-Ph
4-Cl-Ph	4-CF_3-Ph	2,5-diMe-Ph	3,5-diCl-Ph

Table 22

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O, X = MeNH, Z = 3-CF_3-Ph, R^2 = Me,

Y = $CH_2ON=C(R^7)$,

R^7	R^7	R^7	R^7
CF_3	OCH_2CF_3	Et	*n*-Pr
Cl	MeO	EtO	MeS

Table 23

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, B = O, W = O, X = MeNH, Y = $CH_2ON=C(R^7)$, R^2 = Me

R^7	Z	R^7	Z
c-propyl	3,4-(OCH_2CH_2O)-Ph	*c*-propyl	3,4-($OCHFCF_2O$)-Ph
c-propyl	3,4-(OCF_2O)-Ph	*c*-propyl	Ph
c-propyl	4-CF_3-Ph	*c*-propyl	3-CF_3-Ph
c-propyl	4-Cl-Ph	*c*-propyl	3-Cl-Ph
c-propyl	2-Me-Ph	*c*-propyl	3-OCF_3-Ph
CF_3	3,4-(OCH_2CH_2O)-Ph	CF_3	3,4-($OCHFCF_2O$)-Ph
CF_3	3,4-(OCF_2O)-Ph	CF_3	Ph
CF_3	4-CF_3-Ph	CF_3	3-CF_3-Ph
CF_3	4-Cl-Ph	CF_3	3-Cl-Ph
CF_3	2-Me-Ph	CF_3	3-OCF_3-Ph
Et	3,4-(OCH_2CH_2O)-Ph	Et	3,4-($OCHFCF_2O$)-Ph
Et	3,4-(OCF_2O)-Ph	Et	Ph
Et	4-CF_3-Ph	Et	3-CF_3-Ph
Et	4-Cl-Ph	Et	3-Cl-Ph
Et	2-Me-Ph	Et	3-OCF_3-Ph

Table 24

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, B = NMe, W = O, X = MeNH, Y = $CH_2ON=C(R^7)$, R^2 = Me

R^7	Z	R^7	Z
c-propyl	3,4-(OCH_2CH_2O)-Ph	*c*-propyl	3,4-($OCHFCF_2O$)-Ph
c-propyl	3,4-(OCF_2O)-Ph	*c*-propyl	Ph
c-propyl	4-CF_3-Ph	*c*-propyl	3-CF_3-Ph
c-propyl	4-Cl-Ph	*c*-propyl	3-Cl-Ph
c-propyl	2-Me-Ph	*c*-propyl	3-OCF_3-Ph
CF_3	3,4-(OCH_2CH_2O)-Ph	CF_3	3,4-($OCHFCF_2O$)-Ph
CF_3	3,4-(OCF_2O)-Ph	CF_3	Ph
CF_3	4-CF_3-Ph	CF_3	3-CF_3-Ph
CF_3	4-Cl-Ph	CF_3	3-Cl-Ph
CF_3	2-Me-Ph	CF_3	3-OCF_3-Ph

Et	3,4-(OCH_2CH_2O)-Ph	Et	3,4-($OCHFCF_2O$)-Ph
Et	3,4-(OCF_2O)-Ph	Et	Ph
Et	4-CF_3-Ph	Et	3-CF_3-Ph
Et	4-Cl-Ph	Et	3-Cl-Ph
Et	2-Me-Ph	Et	3-OCF_3-Ph

Table 25

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O, X = MeNH, Y = $CH_2ON=C(R^7)$,

R^2 = Me

R^7	Z	R^7	Z
c-propyl	3,4-(OCH_2CH_2O)-Ph	*c*-propyl	3,4-($OCHFCF_2O$)-Ph
c-propyl	3,4-(OCF_2O)-Ph	*c*-propyl	Ph
c-propyl	4-CF_3-Ph	*c*-propyl	3-CF_3-Ph
c-propyl	4-Cl-Ph	*c*-propyl	3-Cl-Ph
c-propyl	2-Me-Ph	*c*-propyl	3-OCF_3-Ph
CF_3	3,4-(OCH_2CH_2O)-Ph	CF_3	3,4-($OCHFCF_2O$)-Ph
CF_3	3,4-(OCF_2O)-Ph	CF_3	Ph
CF_3	4-CF_3-Ph	CF_3	3-CF_3-Ph
CF_3	4-Cl-Ph	CF_3	3-Cl-Ph
CF_3	2-Me-Ph	CF_3	3-OCF_3-Ph
Et	3,4-(OCH_2CH_2O)-Ph	Et	3,4-($OCHFCF_2O$)-Ph
Et	3,4-(OCF_2O)-Ph	Et	Ph
Et	4-CF_3-Ph	Et	3-CF_3-Ph
Et	4-Cl-Ph	Et	3-Cl-Ph
Et	2-Me-Ph	Et	3-OCF_3-Ph

Table 26

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, B = O, W = O,

X = MeNH,

R^2 = Me

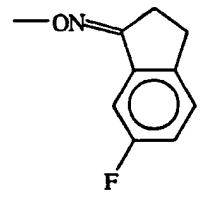
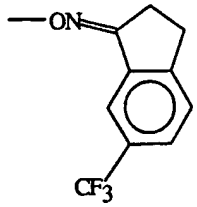
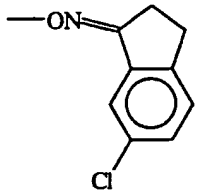
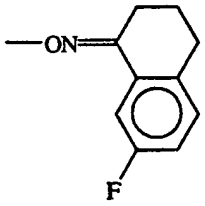
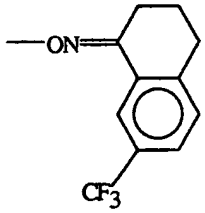
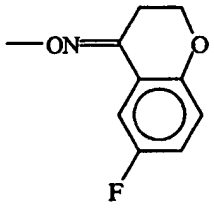
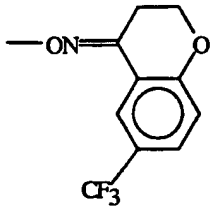
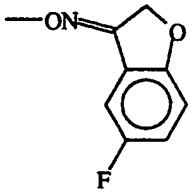
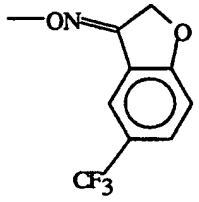
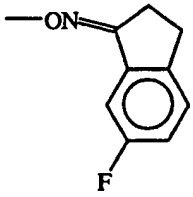
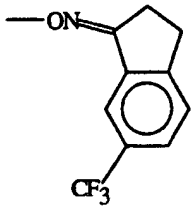
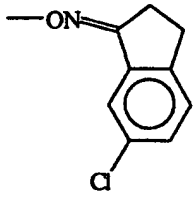
Y-Z	Y-Z	Y-Z
		
		
		

Table 27

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, B = NMe, W = O,

X = MeNH,

R^2 = Me

Y-Z	Y-Z	Y-Z
		

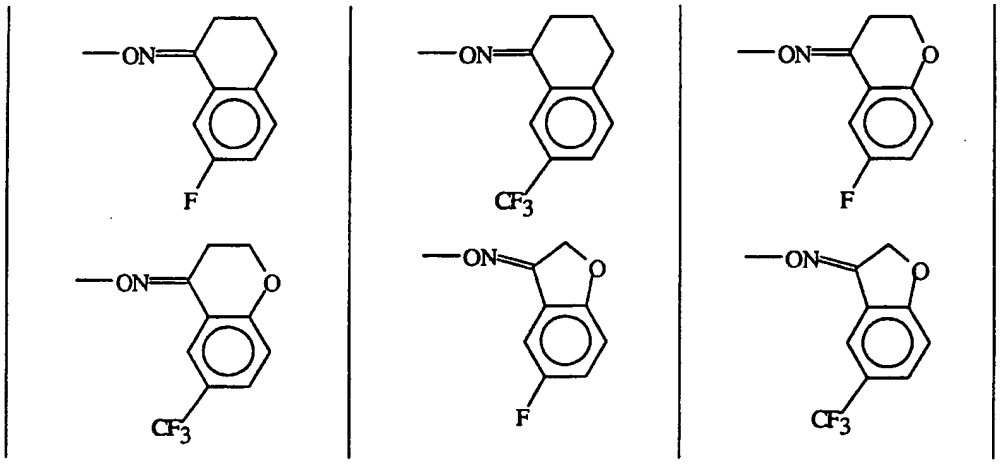


Table 28

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, A = N, W = O,

X = MeNH,

R^2 = Me

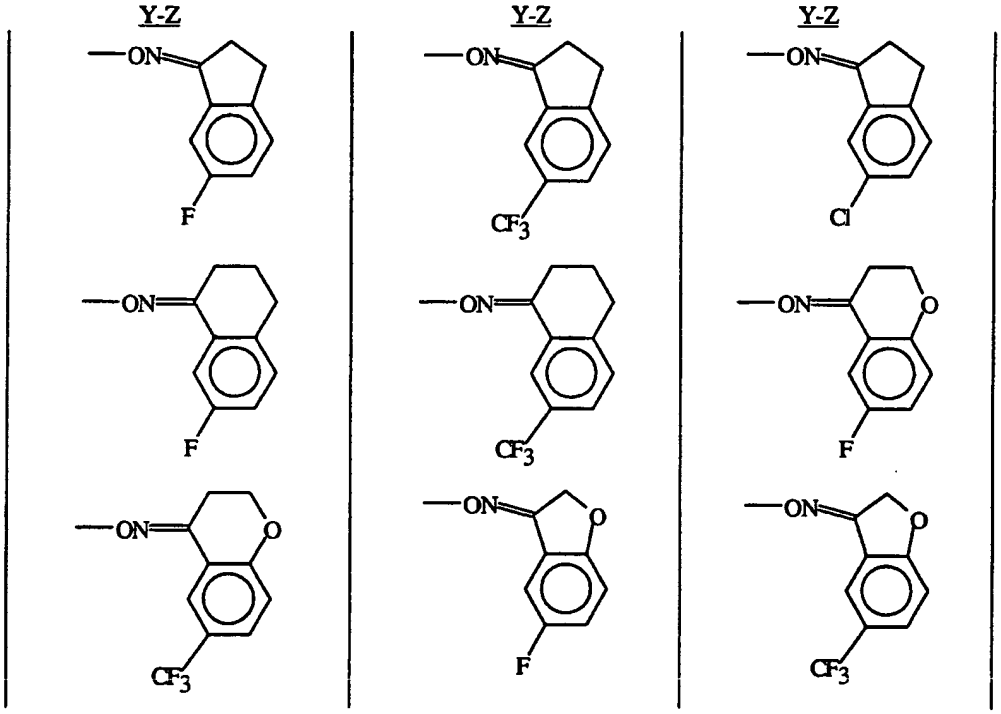


Table 29

Compounds of Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O, X = NHMe, R^2 = Me,

Z = 3-CF_3-Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)$=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)$=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = 3-Me_3Si-Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)$=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)$=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2

CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)$=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)$=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = *t*-Bu

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)$=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)$=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Table 30

Compounds of Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O, X = NMe_2, R^2 = Me,

Z = 3-CF_3-Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O

CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)$=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
CH_2SC(Me)=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	CH_2C(=O)NH
CH_2CH_2C(=O)NH	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = 3-Me_3Si-Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	CH_2OC(=S)N(Me)	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	CH_2C(=O)O	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	CH_2CH_2C(=O)O	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)$=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
CH_2SC(Me)=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	CH_2C(=O)NH
CH_2CH_2C(=O)NH	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	CH_2OC(=S)N(Me)	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	CH_2C(=O)O	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	CH_2CH_2C(=O)O	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH

$CH_2SC(Et)=N$	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)=N$	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = *t*-Bu

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)N=C(Me)$	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)=N$	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)=N$	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Table 31

Compounds of Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O, X = Et , R^2 = Me,

Z = 3-CF_3-Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)N=C(Me)$	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)=N$	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S

$CH_2SC(c\text{-}Pr)=N$	$CH_2O\text{-}N=C(SMe)N(Me)$	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)=N$	$CH_2O\text{-}N=C(SMe)OCH_2$	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = 3-Me_3Si-Ph

Y	Y	Y	Y
$CH_2O\text{-}N=C(CN)C(=O)$	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	$CH_2O\text{-}N=C(Me)N(Me)$	$CH_2C(=O)O$	O-N=C(SMe)
$CH_2O\text{-}N=C(Cl)$	$CH_2O\text{-}N=C(Me)OCH_2$	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	$CH_2O\text{-}N=C(Me)\text{-}N=N$	N=C(Me)C(=O)O	(MeS)C=N-O
$CH_2O\text{-}N=C(SMe)$	$CH_2O\text{-}N=C(Me)C(=O)$	$CH_2CH(c\text{-}Pr)$	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
$CH_2O\text{-}N=C(SO_2Me)$	$CH_2N(COCH_3)N=C(Me)$	$CH_2OC(=O)N(c\text{-}Pr)$	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)=N$	$CH_2O\text{-}N(Me)C(=O)N(Me)$	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	$CH_2O\text{-}N(Me)C(=S)N(Me)$	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
$CH_2SC(c\text{-}Pr)=N$	$CH_2O\text{-}N=C(SMe)N(Me)$	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)=N$	$CH_2O\text{-}N=C(SMe)OCH_2$	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = Ph

Y	Y	Y	Y
$CH_2O\text{-}N=C(CN)C(=O)$	$CH_2OC(=S)N(Me)$	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	$CH_2O\text{-}N=C(Me)N(Me)$	$CH_2C(=O)O$	O-N=C(SMe)
$CH_2O\text{-}N=C(Cl)$	$CH_2O\text{-}N=C(Me)OCH_2$	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	$CH_2O\text{-}N=C(Me)\text{-}N=N$	N=C(Me)C(=O)O	(MeS)C=N-O
$CH_2O\text{-}N=C(SMe)$	$CH_2O\text{-}N=C(Me)C(=O)$	$CH_2CH(c\text{-}Pr)$	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
$CH_2O\text{-}N=C(SO_2Me)$	$CH_2N(COCH_3)N=C(Me)$	$CH_2OC(=O)N(c\text{-}Pr)$	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)=N$	$CH_2O\text{-}N(Me)C(=O)N(Me)$	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	$CH_2O\text{-}N(Me)C(=S)N(Me)$	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
$CH_2SC(c\text{-}Pr)=N$	$CH_2O\text{-}N=C(SMe)N(Me)$	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)=N$	$CH_2O\text{-}N=C(SMe)OCH_2$	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = *t*-Bu

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	CH_2OC(=S)N(Me)	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	CH_2C(=O)O	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	CH_2CH_2C(=O)O	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	CH_2OC(=O)N(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
CH_2SC(Et)=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
CH_2SC(Me)=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	CH_2C(=O)NH
CH_2CH_2C(=O)NH	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Table 32

Compounds of Formula I where E = 1,2-phenylene, G = G-3, B = O, W = O, X = NHMe, R^2 = Me,

Z = 3-CF_3-Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	CH_2OC(=S)N(Me)	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	CH_2C(=O)O	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	CH_2CH_2C(=O)O	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	CH_2OC(=O)N(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
CH_2SC(Et)=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
CH_2SC(Me)=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	CH_2C(=O)NH
CH_2CH_2C(=O)NH	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = 3-Me_3Si-Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	CH_2OC(=S)N(Me)	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2

CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
CH_2SC(Et)=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
CH_2SC(Me)=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = Ph

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N$(Me)	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)
N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N$(*c*-Pr)	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
CH_2SC(Et)=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
CH_2SC(*c*-Pr)=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
CH_2SC(Me)=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Z = *t*-Bu

Y	Y	Y	Y
CH_2O-N=C(CN)C(=O)	$CH_2OC(=S)N$(Me)	OC(=S)N(Me)C(=O)	(MeS)C=N-OCH_2
CH=C(Cl)C(=O)O	CH_2O-N=C(Me)N(Me)	$CH_2C(=O)O$	O-N=C(SMe)
CH_2O-N=C(Cl)	CH_2O-N=C(Me)OCH_2	$CH_2CH_2C(=O)O$	CH(*c*-Pr)O-N=C(Me)
C(=O)	CH_2O-N=C(Me)-N=N	N=C(Me)C(=O)O	(MeS)C=N-O
CH_2O-N=C(SMe)	CH_2O-N=C(Me)C(=O)	CH_2CH(*c*-Pr)	OC(=S)NHC(=O)

N=C(Cl)C(=O)O	CH=N-N(Me)	CH=C(*c*-Pr)	CH=C(CN)C(=O)O
CH_2O-N=C(SO_2Me)	$CH_2N(COCH_3)$N=C(Me)	$CH_2OC(=O)N(c\text{-}Pr)$	CH=C(Br)C(=O)O
CH=N-N=C(Me)	NH	N(Me)	CH=C(Cl)C(=O)NH
$CH_2SC(Et)$=N	CH_2O-N(Me)C(=O)N(Me)	CH=C(CN)	CH=C(Cl)C(=O)N(Me)
C≡C-C(=O)O	CH_2O-N(Me)C(=S)N(Me)	CH(*c*-Pr)O	CH=C(Cl)C(=O)S
$CH_2SC(c\text{-}Pr)$=N	CH_2O-N=C(SMe)N(Me)	SCH(*c*-Pr)	CH=C(Cl)C(=S)O
$CH_2SC(Me)$=N	CH_2O-N=C(SMe)OCH_2	CH=N-OCH(*c*-Pr)	$CH_2C(=O)NH$
$CH_2CH_2C(=O)NH$	CH=C(Cl)C(=S)NH	C≡C-C(=O)NH	N=C(Cl)C(=O)NH

Table 33

Compounds of Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O, X = NHMe, R^2 = Me, Y = CH=C(Cl)C(=O)O

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC≡CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl

5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = CH=N-N=C(Me)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC≡CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = $CH_2SC(Et)$=N

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC≡CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2

c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	$(4\text{-Cl-Ph})CH_2$	3-PhO-Ph	4-octenyl
$(2\text{-CN-Ph})CH_2$	$(3\text{-F-Ph})CH_2$	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	$6\text{-}CF_3\text{-2-pyridinyl}$	4-(PhO)-*c*-hexyl
2-MeS-Ph	$HC{\equiv}CCH_2$	4-Me-2-pyrimidinyl	$2\text{-}CF_3O\text{-Ph}$
4-Cl-Ph	$H_2C{=}CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	$PhCH{=}CHCH_2$	2-Ph-4-thiazolyl	$6\text{-}CF_3\text{-4-pyrimidinyl}$
$3\text{-}CF_3\text{-Ph}$	2-Me-Ph	$3\text{-}OCF_2H\text{-Ph}$	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	$6\text{-}Me_3Si\text{-2-nap}$	3-(2-Me-PhO)-Ph
3-F-Ph	$3,5\text{-di}CF_3\text{-Ph}$	$7\text{-}OCF_3\text{-2-nap}$	2-F-Ph
$4\text{-}CF_3\text{-Ph}$	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	$3\text{-}CF_3O\text{-Ph}$	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
$3,4\text{-di}CF_3\text{-Ph}$	3-Et-Ph	$4\text{-}CF_3\text{-2-pyridinyl}$	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	$4\text{-}CF_3\text{-2-pyrimidinyl}$	4-Ph-Ph
Ph	3,4-diMe-Ph	$6\text{-}CF_3\text{-2-pyrazinyl}$	2-I-Ph
2-nap	3,5-diMe-Ph	$5\text{-}CF_3\text{-3-pyridinyl}$	2,5-diMe-3-thienyl
$3\text{-}SF_5\text{-Ph}$	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	$3\text{-}Me_3Si\text{-Ph}$	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
$4\text{-F-}3\text{-}CF_3\text{-Ph}$	$4\text{-}Me_3Si\text{-Ph}$	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
$5\text{-F-}3\text{-}CF_3\text{-Ph}$	$3\text{-}Me_3Ge\text{-Ph}$	4-Ph-2-pyridinyl	$(4\text{-Br-Ph})CH_2$
i-Bu	$4\text{-}Me_3Ge\text{-Ph}$	$4\text{-}Me_3Si\text{-2-pyridinyl}$	*n*-Bu

Y = CH_2O-N=C(SMe)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	$PhC{\equiv}CCH_2$	$4\text{-}Me_3Ge\text{-2-pyridinyl}$
2-CN-Ph	*c*-pentyl	2-Et-Ph	$4\text{-}CF_3\text{-2-nap}$
$2\text{-}CF_3\text{-Ph}$	$PhCH_2$	2-Cl-Ph	$(c\text{-Pr})CH_2$
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	$(4\text{-Cl-Ph})CH_2$	3-PhO-Ph	4-octenyl
$(2\text{-CN-Ph})CH_2$	$(3\text{-F-Ph})CH_2$	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	$6\text{-}CF_3\text{-2-pyridinyl}$	4-(PhO)-*c*-hexyl
2-MeS-Ph	$HC{\equiv}CCH_2$	4-Me-2-pyrimidinyl	$2\text{-}CF_3O\text{-Ph}$
4-Cl-Ph	$H_2C{=}CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	$PhCH{=}CHCH_2$	2-Ph-4-thiazolyl	$6\text{-}CF_3\text{-4-pyrimidinyl}$
$3\text{-}CF_3\text{-Ph}$	2-Me-Ph	$3\text{-}OCF_2H\text{-Ph}$	PhCH=CHCH(Me)

3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = CH=N-OCH(Me)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC≡CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	PhCH_2	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
PhCH_2CH_2	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph

2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Table 34

Compounds of Formula I where E = 1,2-phenylene, G = G-3, B = O, W = O, X = NHMe, R^2 = Me, Y = CH=C(Cl)C(=O)O

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC≡CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = CH=N-N=C(Me)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	$PhC{\equiv}CCH_2$	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	$HC{\equiv}CCH_2$	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	$H_2C{=}CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	$PhCH{=}CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = $CH_2SC(Et)$=N

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	$PhC{\equiv}CCH_2$	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl

(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = CH_2O-N=C(SMe)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC≡CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph

3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = CH=N-OCH(Me)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC≡CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	PhCH_2	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
PhCH_2CH_2	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl

t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Table 35

Compounds of Formula I where E = 1,2-phenylene, G = G-2, Z = *t*-Bu, Y = CH=C(Cl)C(=O)O,

R^2 = Me, W = O

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et, W = O

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Me, W = S

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et, W = S

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

Table 36

Compounds of Formula I where E = 1,2-phenylene, G = G-3, Z = *t*-Bu, Y = CH=C(Cl)C(=O)O,

R^2 = Me, W = O

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et, W = O

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Me, W = S

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S

$HC{\equiv}CCH_2NH$	O	$HC{\equiv}CCH_2$	O	$HC{\equiv}CCH_2NH$	S	$HC{\equiv}CCH_2$	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et, W = S

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
$H_2C{=}CHCH_2NH$	O	$H_2C{=}CHCH_2$	O	$H_2C{=}CHCH_2NH$	S	$H_2C{=}CHCH_2$	S
$HC{\equiv}CCH_2NH$	O	$HC{\equiv}CCH_2$	O	$HC{\equiv}CCH_2NH$	S	$HC{\equiv}CCH_2$	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

Table 37

Compounds of Formula I where E = 1,2-phenylene, G = G-2, Z = 3-CF_3-Ph, Y = CH_2O-N=C(SMe),

R^2 = Me, W = O

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
$H_2C{=}CHCH_2NH$	N	$H_2C{=}CHCH_2$	N	$H_2C{=}CHCH_2NH$	CH	$H_2C{=}CHCH_2$	CH
$HC{\equiv}CCH_2NH$	N	$HC{\equiv}CCH_2$	N	$HC{\equiv}CCH_2NH$	CH	$HC{\equiv}CCH_2$	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et, W = O

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
$H_2C{=}CHCH_2NH$	N	$H_2C{=}CHCH_2$	N	$H_2C{=}CHCH_2NH$	CH	$H_2C{=}CHCH_2$	CH
$HC{\equiv}CCH_2NH$	N	$HC{\equiv}CCH_2$	N	$HC{\equiv}CCH_2NH$	CH	$HC{\equiv}CCH_2$	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Me, W = S

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH

EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=CHCH_2NH	N	H_2C=$CHCH_2$	N	H_2C=CHCH_2NH	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et, W = S

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=CHCH_2NH	N	H_2C=$CHCH_2$	N	H_2C=CHCH_2NH	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

Table 38

Compounds of Formula I where E = 1, 2-phenylene, G = G-3, Z = 3-CF_3-Ph, Y = CH_2O-N=C(SMe),

R^2 = Me, W = O

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=CHCH_2NH	O	H_2C=$CHCH_2$	O	H_2C=CHCH_2NH	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et, W = O

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=CHCH_2NH	O	H_2C=$CHCH_2$	O	H_2C=CHCH_2NH	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S

(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Me, W = S

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et, W = S

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

Table 39

Compounds of Formula I where E = 1,2-phenylene, G = G-2, Z = 3-CF_3-Ph, Y = $CH_2SC(Et)$=N,

R^2 = Me, W = O

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et, W = O

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH

EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Me, W = S

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

R^2 = Et, W = S

X	A	X	A	X	A	X	A
MeNH	N	Me	N	MeNH	CH	Me	CH
EtNH	N	Et	N	EtNH	CH	Et	CH
n-PrNH	N	*n*-Pr	N	*n*-PrNH	CH	*n*-Pr	CH
H_2C=$CHCH_2NH$	N	H_2C=$CHCH_2$	N	H_2C=$CHCH_2NH$	CH	H_2C=$CHCH_2$	CH
HC≡CCH_2NH	N	HC≡CCH_2	N	HC≡CCH_2NH	CH	HC≡CCH_2	CH
Me_2N	N	CF_3	N	Me_2N	CH	CF_3	CH
(*c*-propyl)NH	N	(*c*-propyl)	N	(*c*-propyl)NH	CH	(*c*-propyl)	CH

Table 40

Compounds of Formula I where E = 1,2-phenylene, G = G-3, Z = 3-CF_3-Ph, Y = $CH_2SC(Et)$=N,

R^2 = Me, W = O

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=$CHCH_2NH$	O	H_2C=$CHCH_2$	O	H_2C=$CHCH_2NH$	S	H_2C=$CHCH_2$	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et, W = O

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=CHCH_2NH	O	H_2C=CHCH_2	O	H_2C=CHCH_2NH	S	H_2C=CHCH_2	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Me, W = S

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=CHCH_2NH	O	H_2C=CHCH_2	O	H_2C=CHCH_2NH	S	H_2C=CHCH_2	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

R^2 = Et, W = S

X	B	X	B	X	B	X	B
MeNH	O	Me	O	MeNH	S	Me	S
EtNH	O	Et	O	EtNH	S	Et	S
n-PrNH	O	*n*-Pr	O	*n*-PrNH	S	*n*-Pr	S
H_2C=CHCH_2NH	O	H_2C=CHCH_2	O	H_2C=CHCH_2NH	S	H_2C=CHCH_2	S
HC≡CCH_2NH	O	HC≡CCH_2	O	HC≡CCH_2NH	S	HC≡CCH_2	S
Me_2N	O	CF_3	O	Me_2N	S	CF_3	S
(*c*-propyl)NH	O	(*c*-propyl)	O	(*c*-propyl)NH	S	(*c*-propyl)	S

Table 41

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-3, W = O, X = NHMe, B = O, R^2 = Me,

Y = O

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph

3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Y = CH_2O

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

$CH_2ON=C(CH_3)$

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Table 42

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, W = O, A = N,
X = NHMe, R^2 = Me,

Y = O

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Y = CH_2O

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Y = $CH_2ON=C(CH_3)$

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Table 43

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-2, W = O, A = N,
X = NMe_2, R^2 = Me,

Y = O

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Y = CH_2O

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Y = $CH_2ON{=}C(CH_3)$

Z	Z	Z	Z
3-Me_3Si-Ph	3-Me_3Si-2-pyridinyl	3-Me_3Si-4-pyridinyl	2-Me-5-Me_3Si-Ph
4-Me_3Si-Ph	3-Me_3Ge-2-pyridinyl	5-Me_3Si-3-pyridinyl	2-Me-5-Me_3Ge-Ph
3-Me_3Ge-Ph	4-Me_3Ge-3-pyridinyl	5-Me_3Ge-2-pyridinyl	3-TBDMS-Ph
4-Me_3Ge-Ph	4-Me_3Si-3-pyridinyl	5-Me_3Si-2-pyridinyl	3-*t*-Bu-Ph_2Si-Ph

Table 44

Compounds of Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O,
X = NHMe, R^2 = Me, Z = 2-nap,

Y = $CH_2ON{=}C(Me)$

R^9	R^9	R^9	R^9	R^9
H	6-Me	6-OMe	6-Br	6-OH
5-Br	1-Br	4-Me	4-Cl	6-CF_3
5-Me	6-TMS	6-C≡CH	7-OCF_3	4-CF_3
8-Me	6-Ph	5-CN	4-*t*-Bu	6-OPh

Y = CH_2O

R^9	R^9	R^9	R^9	R^9
H	6-Me	6-OMe	6-Br	6-OH

5-Br	1-Br	4-Me	4-Cl	6-CF_3
5-Me	6-TMS	6-C≡CH	7-OCF_3	4-CF_3
8-Me	6-Ph	5-CN	4-*t*-Bu	6-OPh

Table 45

Compounds of Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O, X = NMe_2, R^2 = Me, Z = 2-nap,

Y = CH_2ON=C(Me)

R^9	R^9	R^9	R^9	R^9
H	6-Me	6-OMe	6-Br	6-OH
5-Br	1-Br	4-Me	4-Cl	6-CF_3
5-Me	6-TMS	6-C≡CH	7-OCF_3	4-CF_3
8-Me	6-Ph	5-CN	4-*t*-Bu	6-OPh

Y = CH_2O

R^9	R^9	R^9	R^9	R^9
H	6-Me	6-OMe	6-Br	6-OH
5-Br	1-Br	4-Me	4-Cl	6-CF_3
5-Me	6-TMS	6-C≡CH	7-OCF_3	4-CF_3
8-Me	6-Ph	5-CN	4-*t*-Bu	6-OPh

Table 46

Compounds of Formula I where E = 1,2-phenylene, G = G-3, B = O, W = O, X = NHMe, R_2 = Me, Z = 2-nap,

Y = CH_2ON=C(Me)

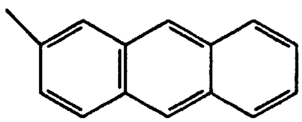
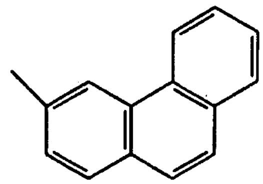
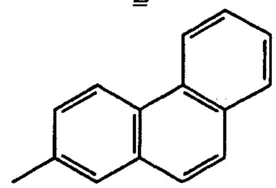
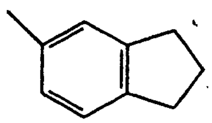
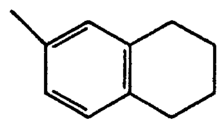
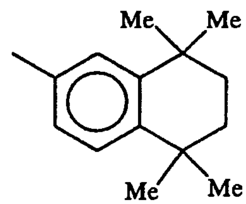
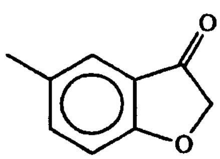
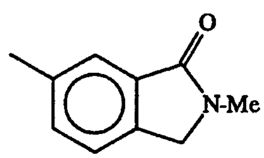
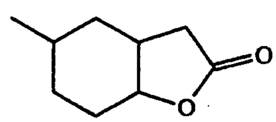
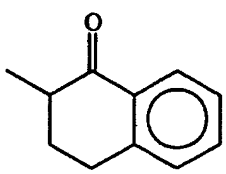
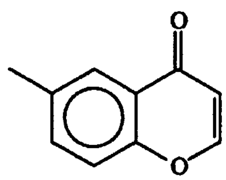
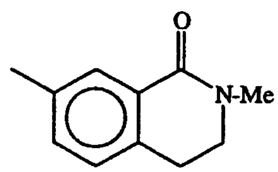
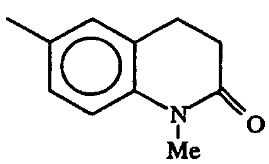
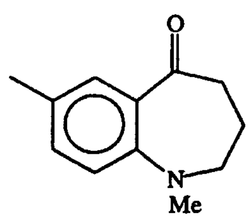
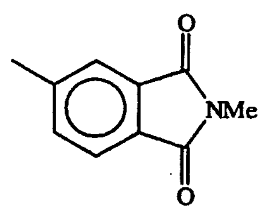
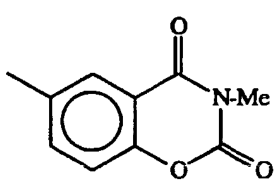
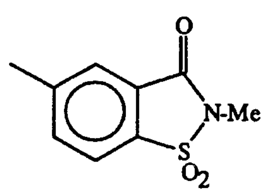
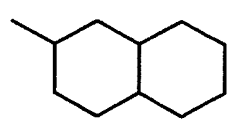
R^9	R^9	R^9	R^9	R^9
H	6-Me	6-OMe	6-Br	6-OH
5-Br	1-Br	4-Me	4-Cl	6-CF_3
5-Me	6-TMS	6-C≡CH	7-OCF_3	4-CF_3
8-Me	6-Ph	5-CN	4-*t*-Bu	6-OPh

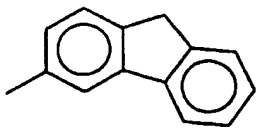
Y = CH_2O

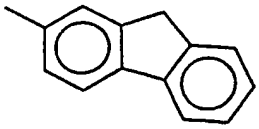
R^9	R^9	R^9	R^9	R^9
H	6-Me	6-OMe	6-Br	6-OH
5-Br	1-Br	4-Me	4-Cl	6-CF_3
5-Me	6-TMS	6-C≡CH	7-OCF_3	4-CF_3
8-Me	6-Ph	5-CN	4-*t*-Bu	6-OPh

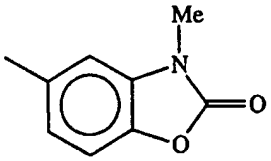
Table 47

Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O, X = NHMe, R^2 = Me, Y = $CH_2ON{=}C(Me)$

Z	Z	Z
		
		
		
		
		
		

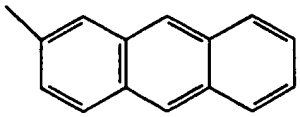


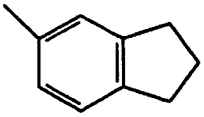


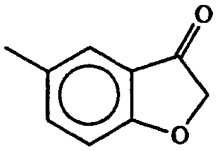

Me
N
O
O

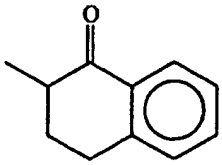
Y = CH_2O

Z






O
O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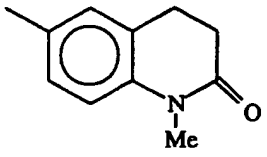
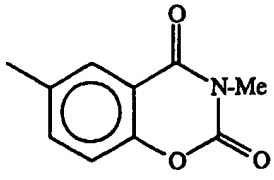
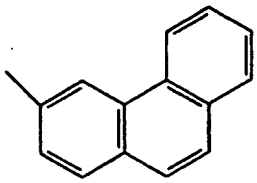
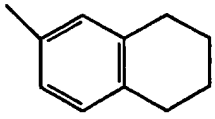
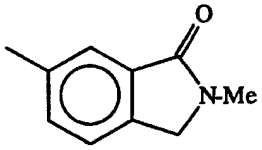

N
Me
O

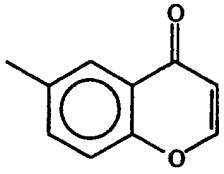

O
N-Me
O
O

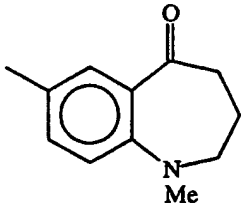
Z

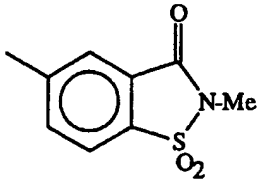




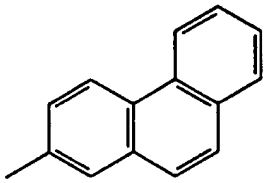

O
N-Me

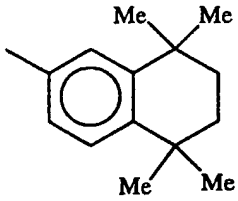

O
O

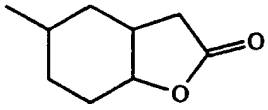

O
N
Me

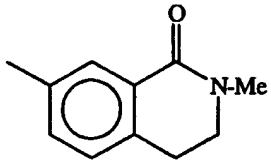

O
N-Me
S
O_2

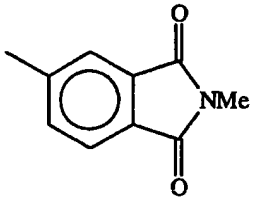
Z

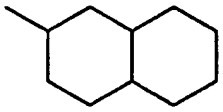



Me
Me
Me
Me


O
O


O
N-Me


O
NMe
O



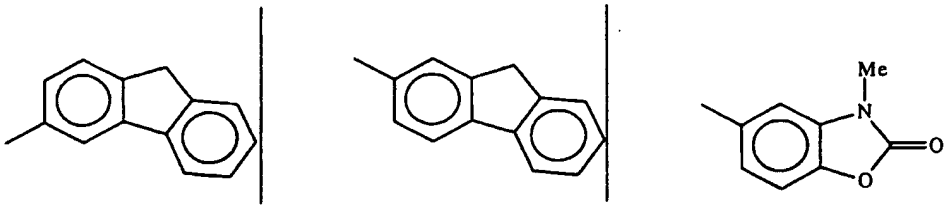
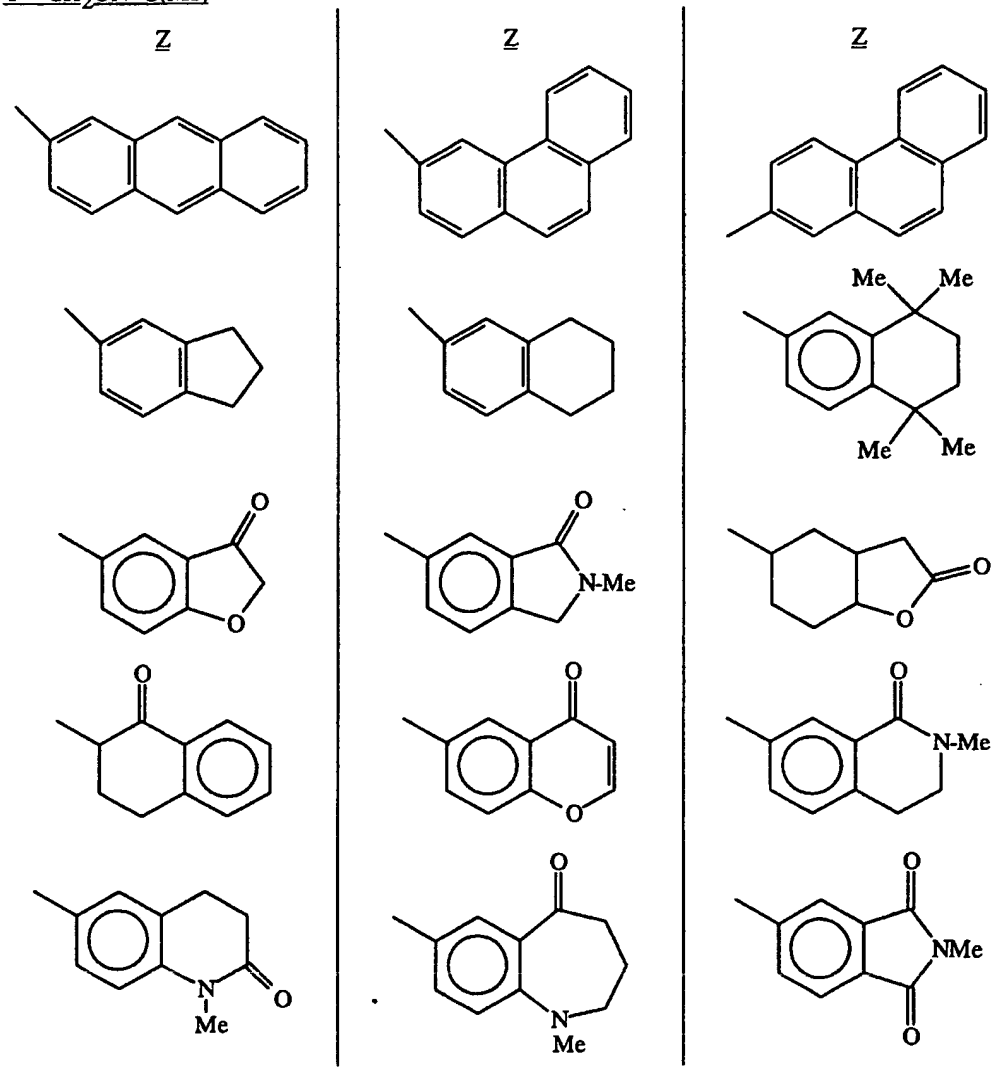
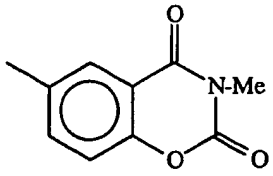
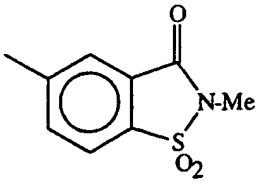
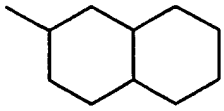
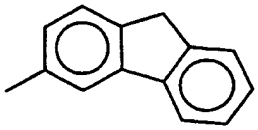
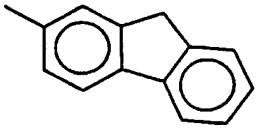
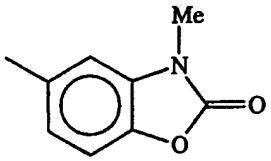


Table 48

Formula I where E = 1,2-phenylene, G = G-2, A = N, W = O, X = NMe_2, R^2 = Me,

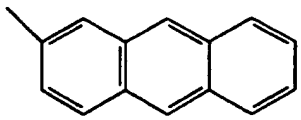
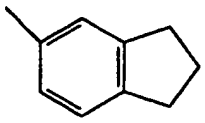
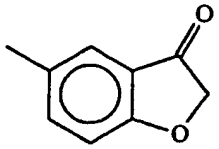
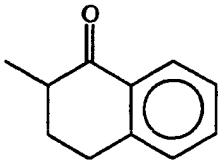
Y = $CH_2ON=C(Me)$



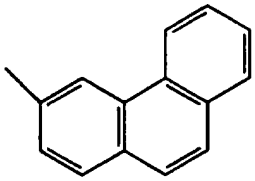
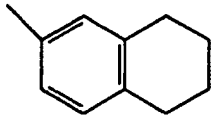
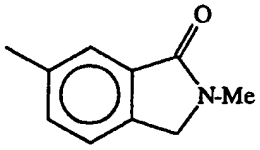
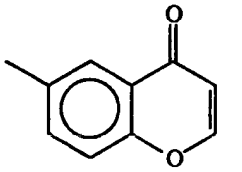







Y = CH_2O

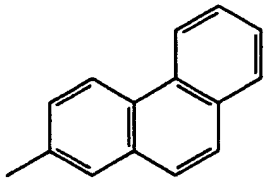
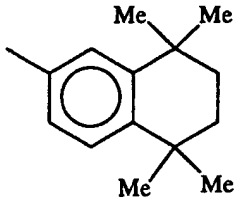
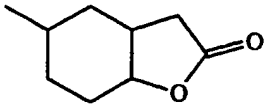
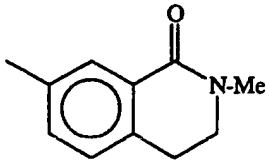
Z

Z

Z

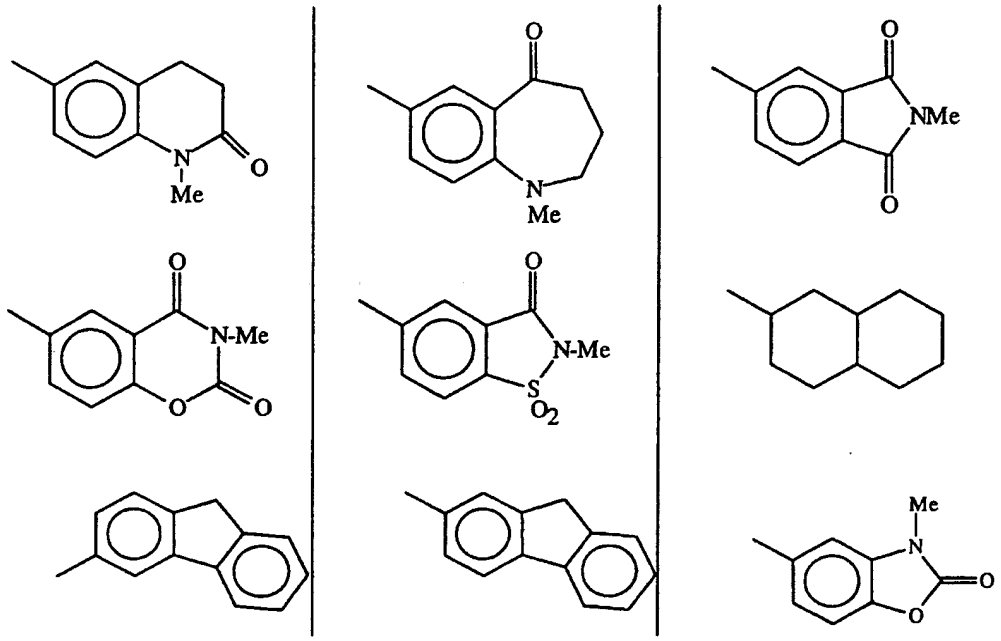
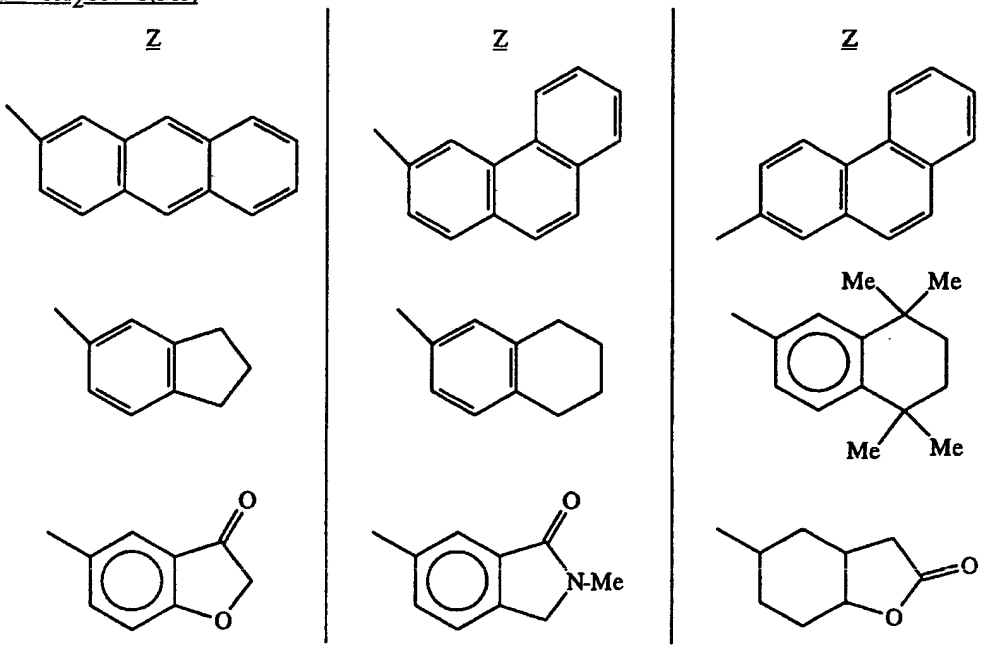
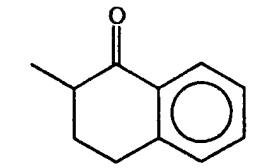
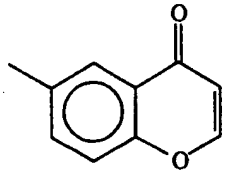
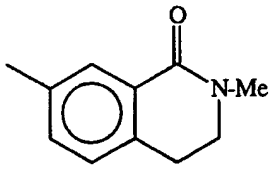
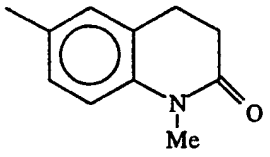
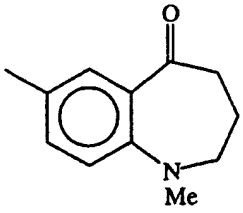
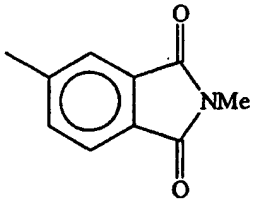
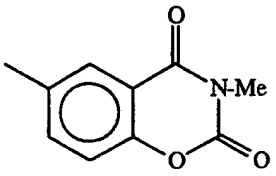
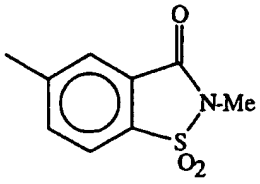
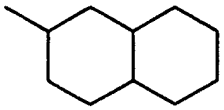
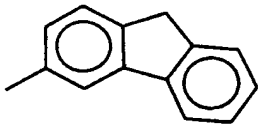
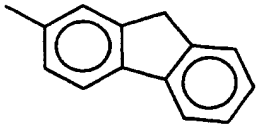
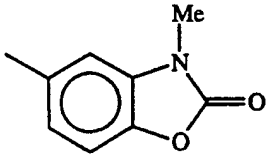


Table 49

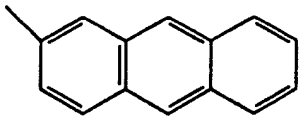
Compounds of Formula I where E = 1,2-phenylene, G = G-3, B = O, W = O, X = NHMe, R^2 = Me, Y = $CH_2ON=C(Me)$



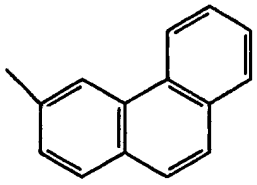













Y = CH_2O

Z



Z



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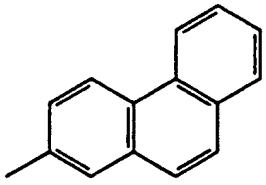
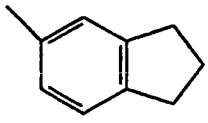
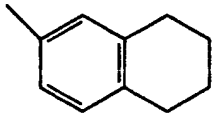
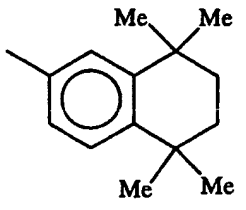





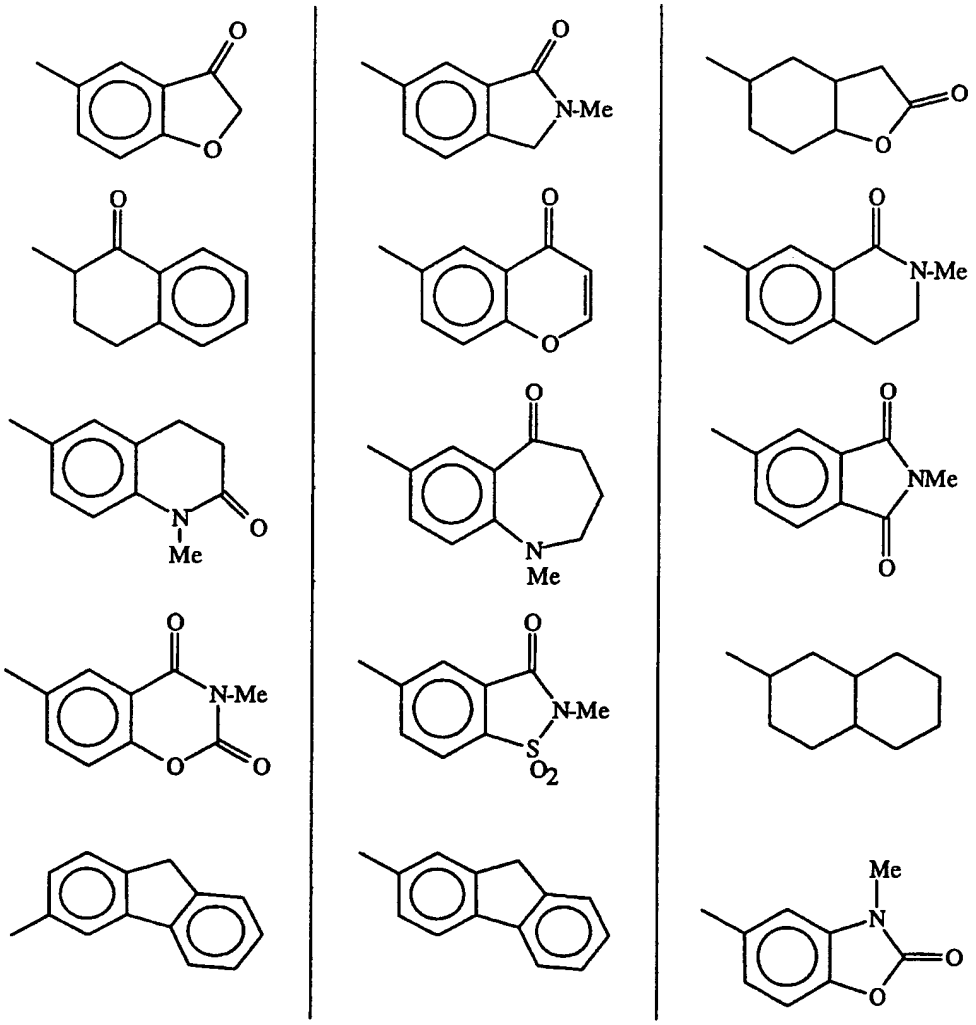


Table 50

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-1, A = N, W = O,

Y = $CH_2ON=C(CH_3)$, R^2 = Me

Z	Z	Z	Z
			4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph

4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	3-F-5-CF_3-Ph
			3-TMS-Ph

Y = $CH_2ON=C(CH_3)$, Z = 3-CF_3-Ph

R^2	R^2	R^2	R^2
Et	*n*-Pr	*n*-hex	*t*-Bu

Table 51

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-1, A = N, R^2 = Me, W = O,

Y = $CH_2ON=C(R^7)$, Z = 3-CF_3-Ph, and

R^7	R^7	R^7	R^7
c-Pr	*c*-pentyl	*c*-hexyl	Et
n-Pr	*t*-Bu	*n*-hexyl	CF_3
OMe	SMe	CN	4-morpholinyl

Table 52

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-1, A = N, W = O, R^2 = Me, Y = CH=NOCH$_2$, and

Z	Z	Z	Z
			4-PhO-2-pyridinyl
PhO(CH$_2$)$_3$	PhCH=CHCH$_2$	PhC≡CCH$_2$	
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF$_3$-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO$_2$-Ph	3,5-diCF$_3$-Ph	6-PhO-4-pyridinyl	3-pyridinyl
PhCH$_2$CH$_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH$_2$	2,6-diMeO-Ph	3-(4-CF$_3$-PhO)-Ph	4-(PhO)-*c*-hexyl
	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO$_2$-PhO)-4-pyrimidinyl
	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF$_3$O-Ph	3-CF$_3$O-Ph	6-CF$_3$-2-pyridinyl	6-(2-CF$_3$-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF$_3$-4-pyrimidinyl
3-CF$_3$-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF$_3$-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF$_3$-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO$_2$-Ph	4-NO$_2$-Ph	2-Ph-4-thiazolyl	6-CF$_3$-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF$_3$-3-pyridinyl
4-CF$_3$-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF$_3$-Ph	3,5-diMe-Ph	3-OCF$_2$H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF$_2$H-Ph	3-F-5-CF$_3$-Ph
		2,5-diMe-Ph	3-TMS-Ph

Table 53

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-1, A = N, W = O, R^2 = Me, Y = CH_2O, and

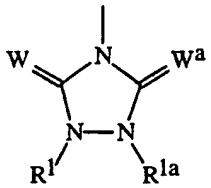
Z	Z	Z	Z
			4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	3-F-5-CF_3-Ph
		2,5-diMe-Ph	3-TMS-Ph

Table 54

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-1, A = N, W = O, R^2 = Me, Y = CH=NOCH(Me), and

Z	Z	Z	Z
			4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	3-F-5-CF_3-Ph
		2,5-diMe-Ph	3-TMS-Ph

Table 55



wherein W^a is defined as W and R^{1a} is defined as R^1

G-4a

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-4a (defined above), Y = $CH_2ON=C(CH_3)$, Z = 3-CF_3-Ph,

W = O, R^1 = Me		W = O, R^1 = Et		W = O, R^1 = *n*-Pr	
R^{1a}	W^a	R^{1a}	W^a	R^{1a}	W^a
Me	O	Me	O	Me	O
Et	O	Et	O	Et	O
n-Pr	O	*n*-Pr	O	*n*-Pr	O
$H_2C=CHCH_2$	O	$H_2C=CHCH_2$	O	$H_2C=CHCH_2$	O
$HC\equiv CCH_2$	O	$HC\equiv CCH_2$	O	$HC\equiv CCH_2$	O
CHF_2	O	CHF_2	O	CHF_2	O
$CH_2CH_2OCH_3$	O	$CH_2CH_2OCH_3$	O	$CH_2CH_2OCH_3$	O

W = O, R^1 = Me

R^{1a}	W^a	R^{1a}	W^a	R^{1a}	W^a	R^{1a}	W^a
Me	NH	Me	NMe	$HC\equiv CCH_2$	NH	$HC\equiv CCH_2$	NMe
Et	NH	Et	NMe	CHF_2	NH	CHF_2	NMe
n-Pr	NH	*n*-Pr	NMe	$CH_2CH_2OCH_3$	NH	$CH_2CH_2OCH_3$	NMe
$H_2C=CHCH_2$	NH	$H_2C=CHCH_2$	NMe				

W = S, R^1 = Me		W = S, R^1 = Et		W = S, R^1 = *n*-Pr	
R^{1a}	W^a	R^{1a}	W^a	R^{1a}	W^a
Me	O	Me	O	Me	O
Et	O	Et	O	Et	O
n-Pr	O	*n*-Pr	O	*n*-Pr	O
$H_2C=CHCH_2$	O	$H_2C=CHCH_2$	O	$H_2C=CHCH_2$	O
$HC\equiv CCH_2$	O	$HC\equiv CCH_2$	O	$HC\equiv CCH_2$	O
CHF_2	O	CHF_2	O	CHF_2	O
$CH_2CH_2OCH_3$	O	$CH_2CH_2OCH_3$	O	$CH_2CH_2OCH_3$	O

W = S, R^1 = Me

R^{1a}	W^a	R^{1a}	W^a	R^{1a}	W^a	R^{1a}	W^a
Me	NH	Me	NMe	$HC{\equiv}CCH_2$	NH	$HC{\equiv}CCH_2$	NMe
Et	NH	Et	NMe	CHF_2	NH	CHF_2	NMe
n-Pr	NH	*n*-Pr	NMe	$CH_2CH_2OCH_3$	NH	$CH_2CH_2OCH_3$	NMe
$H_2C{=}CHCH_2$	NH	$H_2C{=}CHCH_2$	NMe				

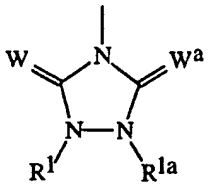
Table 56

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-5, Y = $CH_2ON{=}C(CH_3)$, Z = 3-CF_3-Ph,

W = O, R^2 = Me	W = O, R^2 = Et	W = O, R^2 = *n*-Pr	W = O, R^2 = H
X^1	X^1	X^1	X^1
MeO	MeO	MeO	MeO
EtO	EtO	EtO	EtO
n-PrO	*n*-PrO	*n*-PrO	*n*-PrO
$H_2C{=}CHCH_2O$	$H_2C{=}CHCH_2O$	$H_2C{=}CHCH_2O$	$H_2C{=}CHCH_2O$
$HC{\equiv}CCH_2O$	$HC{\equiv}CCH_2O$	$HC{\equiv}CCH_2O$	$HC{\equiv}CCH_2O$
Me_2N	Me_2N	Me_2N	Me_2N
MeNH	MeNH	MeNH	MeNH
MeS	MeS	MeS	MeS

W = S, R^2 = Me	W = S, R^2 = Et	W = S, R^2 = *n*-Pr	W = S, R^2 = H
X^1	X^1	X^1	X^1
MeO	MeO	MeO	MeO
EtO	EtO	EtO	EtO
n-PrO	*n*-PrO	*n*-PrO	*n*-PrO
$H_2C{=}CHCH_2O$	$H_2C{=}CHCH_2O$	$H_2C{=}CHCH_2O$	$H_2C{=}CHCH_2O$
$HC{\equiv}CCH_2O$	$HC{\equiv}CCH_2O$	$HC{\equiv}CCH_2O$	$HC{\equiv}CCH_2O$
Me_2N	Me_2N	Me_2N	Me_2N
MeNH	MeNH	MeNH	MeNH
MeS	MeS	MeS	MeS

Table 57



wherein W^a is defined as W and R^{1a} is defined as R^1

G-4a

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-4a (defined above), W = W^a = O, $R^1 = R^{1a}$ = Me,

Y = O,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl

3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = CH_2O,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = $CH_2ON{=}C(CH_3)$

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	$PhC \equiv CCH_2$	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap

2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = CH=N-OCH(Me)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC ≡ CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl

3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Table 58

Compounds of Formula I wherein: E = 1,2-phenylene, G = G-5, W = O, R^2 = Me, X^1 = MeO

Y = O,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH=CHCH_2$	$PhC\equiv CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl

4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl
3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = CH_2O,

Z	Z	Z	Z
hexyl	4-octenyl	3-pentynyl	4-PhO-2-pyridinyl
$PhO(CH_2)_3$	$PhCH{=}CHCH_2$	$PhC{\equiv}CCH_2$	(*c*-propyl)CH_2
2-Br-Ph	2-Me-Ph	2-Et-Ph	6-(2-CN-PhO)-4-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	6-PhO-4-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	2,4,6-triCl-Ph	4-EtO-2-pyrimidinyl
2-CF_3-Ph	4-Ph-Ph	3-PhO-Ph	3-(4-pyrimidinyloxy)-Ph
2-I-Ph	3-(2-Cl-PhO)-Ph	3-(2-Et-PhO)-Ph	4-(2-thienyl)Ph
c-hexyl	3,5-diCl-Ph	6-Ph-2-pyridinyl	3-(2-pyridinyloxy)Ph
4-NO_2-Ph	3,5-diCF_3-Ph	6-PhO-4-pyridinyl	3-pyridinyl
$PhCH_2CH_2$	2-MeO-Ph	3-thienyloxy-Ph	4-(3-Cl-2-pyridinyloxy)-Ph
(2-CN-Ph)CH_2	2,6-diMeO-Ph	3-(4-CF_3-PhO)-Ph	4-(PhO)-*c*-hexyl
CF_3CH_2	3-(2-CN-PhO)-Ph	3-(2-Me-PhO)-Ph	5-PhO-2-pyrimidinyl
2-MeS-Ph	5-PhO-3-pyridinyl	5-PhO-2-pyridinyl	6-(2-NO_2-PhO)-4-pyrimidinyl
i-Bu	6-Me-2-pyridinyl	6-PhO-2-pyridinyl	6-(2-Cl-PhO)-4-pyrimidinyl
2-CF_3O-Ph	3-CF_3O-Ph	6-CF_3-2-pyridinyl	6-(2-CF_3-PhO)-4-pyrimidinyl
4-Me-Ph	4-Br-Ph	6-PhO-3-pyridinyl	4,6-diMeO-2-pyrimidinyl
4-Cl-Ph	3-Et-Ph	2-pyrimidinyl	4,6-diMe-2-pyrimidinyl
3-Me-Ph	4-Et-Ph	4-pyrimidinyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	4-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyridinyl
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-Me-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
3-*t*-Bu-Ph	4-CN-Ph	6-MeO-4-pyrimidinyl	2-pyridinyl

3-NO_2-Ph	4-NO_2-Ph	2-Ph-4-thiazolyl	6-CF_3-2-pyrazinyl
3-F-Ph	4-F-Ph	3-MeO-6-pyridazinyl	5-CF_3-3-pyridinyl
4-CF_3-Ph	3-Ph-Ph	5-Me-2-furanyl	3-MeO-2-pyridinyl
3,4-diCl-Ph	3,4-diMe-Ph	2,5-diMe-3-thienyl	5-CN-2-pyridinyl
3,4-diCF_3-Ph	3,5-diMe-Ph	3-OCF_2H-Ph	6-Me-2-pyridinyl
3-EtO-Ph	3-MeS-Ph	4-OCF_2H-Ph	2,5-diMe-Ph

Y = $CH_2ON{=}C(CH_3)$

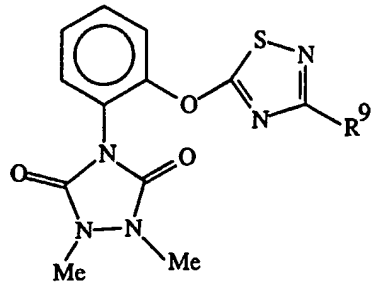
Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC ≡ CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	$H_2C{=}CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	$PhCH{=}CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Y = CH=N-OCH(Me)

Z	Z	Z	Z
2-Br-Ph	*i*-Pr	PhC ≡ CCH_2	4-Me_3Ge-2-pyridinyl
2-CN-Ph	*c*-pentyl	2-Et-Ph	4-CF_3-2-nap
2-CF_3-Ph	$PhCH_2$	2-Cl-Ph	(*c*-Pr)CH_2
c-hexyl	1-phenylethyl	2,4,6-triCl-Ph	3-pentynyl
$PhCH_2CH_2$	(4-Cl-Ph)CH_2	3-PhO-Ph	4-octenyl
(2-CN-Ph)CH_2	(3-F-Ph)CH_2	6-Ph-2-pyridinyl	hexyl
CF_3CH_2	2,5-diMe-Ph	6-CF_3-2-pyridinyl	4-(PhO)-*c*-hexyl
2-MeS-Ph	HC≡CCH_2	4-Me-2-pyrimidinyl	2-CF_3O-Ph
4-Cl-Ph	H_2C=$CHCH_2$	6-MeO-4-pyrimidinyl	3-(2-Et-PhO)-Ph
3-Me-Ph	PhCH=$CHCH_2$	2-Ph-4-thiazolyl	6-CF_3-4-pyrimidinyl
3-CF_3-Ph	2-Me-Ph	3-OCF_2H-Ph	PhCH=CHCH(Me)
3-Cl-2-Me-Ph	2-Me-4-Cl-Ph	5-Me-2-nap	4,6-diMe-O-2-pyrimidinyl
3-*t*-Bu-Ph	3,5-diCl-Ph	6-Me_3Si-2-nap	3-(2-Me-PhO)-Ph
3-F-Ph	3,5-diCF_3-Ph	7-OCF_3-2-nap	2-F-Ph
4-CF_3-Ph	2-MeO-Ph	4-PhO-2-pyridinyl	4-Me-Ph
3,4-diCl-Ph	3-CF_3O-Ph	4-EtO-2-pyrimidinyl	4-MeO-2-pyrimidinyl
3,4-diCF_3-Ph	3-Et-Ph	4-CF_3-2-pyridinyl	5-Me-2-furanyl
3-EtO-Ph	3-Ph-Ph	4-CF_3-2-pyrimidinyl	4-Ph-Ph
Ph	3,4-diMe-Ph	6-CF_3-2-pyrazinyl	2-I-Ph
2-nap	3,5-diMe-Ph	5-CF_3-3-pyridinyl	2,5-diMe-3-thienyl
3-SF_5-Ph	3-MeS-Ph	4-*t*-Bu-2-nap	3-MeO-6-pyridazinyl
t-Bu	3-Me_3Si-Ph	3,5-diBr-Ph	5-PhO-2-pyrimidinyl
4-F-3-CF_3-Ph	4-Me_3Si-Ph	4-*t*-Bu-2-pyridinyl	6-PhO-2-pyridinyl
5-F-3-CF_3-Ph	3-Me_3Ge-Ph	4-Ph-2-pyridinyl	(4-Br-Ph)CH_2
i-Bu	4-Me_3Ge-Ph	4-Me_3Si-2-pyridinyl	*n*-Bu

Table 59

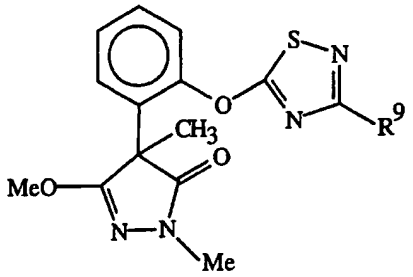
Compounds of the Formula defined as:



R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

Table 60

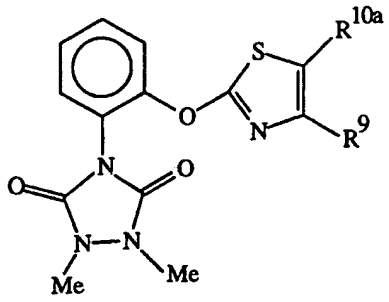
Compounds of the Formula defined as:



R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

TABLE 61

Compounds of the Formula defined as:



R^{10a} = H or R^{10}

where R^{10a} = H

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where $R^{10a} = CH_3$

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where $R^{10a} = Br$

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph

3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where R^{10a} = Cl

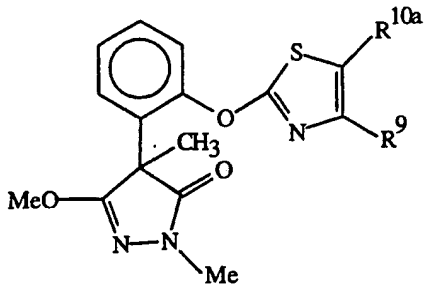
R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where R^{10a} = CN

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

TABLE 62

Compounds of the Formula defined as:



R^{10a} = H or R^{10}

where R^{10a} = H

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	C$(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where $R^{10a} = CH_3$

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where $R^{10a} = Br$

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph

3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where R^{10a} = Cl

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

where R^{10a} = CN

R^9	R^9	R^9	R^9
2-Br-Ph	2-Me-Ph	2-Et-Ph	4-EtO-2-pyrimidinyl
2-CN-Ph	2-F-Ph	2-Cl-Ph	4,6-diMeO-2-pyrimidinyl
2,4-diCl-Ph	2-Me-4-Cl-Ph	6-CF_3-2-pyridinyl	4,6-diMe-2-pyrimidinyl
2-CF_3-Ph	3,5-diCl-Ph	2-pyrimidinyl	6-CF_3-4-pyrimidinyl
2-I-Ph	3,5-diCF_3-Ph	4-pyrimidinyl	4-CF_3-2-pyridinyl
4-NO_2-Ph	2-MeO-Ph	4-MeO-2-pyrimidinyl	4-CF_3-2-pyrimidinyl
4-CF_3O-Ph	2,6-diMeO-Ph	4-Me-2-pyrimidinyl	5-CF_3-3-pyridinyl
4-Me-Ph	3-CF_3O-Ph	6-MeO-4-pyrimidinyl	3-MeO-2-pyridinyl
4-Cl-Ph	4-Br-Ph	5-Me-2-furanyl	5-CN-2-pyridinyl
3-Me-Ph	3-Et-Ph	2,5-diMe-3-thienyl	6-Me-2-pyridinyl
3-CF_3-Ph	4-MeO-Ph	3-OCF_2H-Ph	3,5-diBr-Ph
3-Cl-2-Me-Ph	4-*t*-Bu-Ph	4-OCF_2H-Ph	4-*t*-Bu-2-pyridinyl
3-*t*-Bu-Ph	4-CN-Ph	3-Me_3Si-Ph	4-Me_3Si-2-pyridinyl
3-F-Ph	4-NO_2-Ph	4-Me_3Si-Ph	4-Me_3Ge-2-pyridinyl
4-CF_3-Ph	3,4-diMe-Ph	3-Me_3Ge-Ph	4,6-diCF_3-2-pyrimidinyl
3,4-diCl-Ph	3,5-diMe-Ph	4-Me_3Ge-Ph	5-CF_3-2-furanyl
3,4-diCF_3-Ph	4-F-3-CF_3-Ph	3-EtO-Ph	5-CF_3-2-thienyl
4-F-Ph	5-F-3-CF_3-Ph	Ph	(2-CN-Ph)CH_2
3,5-diF-Ph	$C(CH_3)_3$	3-Cl-Ph	3-Br-Ph
3-I-Ph			

Formulation/Utility

Compounds of this invention will generally be used as a formulation or composition with an agriculturally suitable carrier comprising at least one of a liquid diluent, a solid diluent or a surfactant. The formulation or composition ingredients are selected to be consistent with the physical properties of the active ingredient, mode of application and environmental factors such as soil type, moisture and temperature. Useful formulations include liquids such as solutions (including emulsifiable concentrates), suspensions, emulsions (including microemulsions and/or suspoemulsions) and the like which optionally can be thickened into gels. Useful formulations further include solids such as dusts, powders, granules, pellets, tablets, films, and the like which can be water-dispersible ("wettable") or water-soluble. Active ingredient can be (micro)encapsulated and further formed into a suspension or solid formulation; alternatively the entire formulation of active ingredient can be encapsulated (or

"overcoated"). Encapsulation can control or delay release of the active ingredient. Sprayable formulations can be extended in suitable media and used at spray volumes from about one to several hundred liters per hectare. High-strength compositions are primarily used as intermediates for further formulation.

The formulations will typically contain effective amounts of active ingredient, diluent and surfactant within the following approximate ranges which add up to 100 percent by weight.

	Weight Percent		
	Active Ingredient	Diluent	Surfactant
Water-Dispersible and Water-soluble Granules, Tablets and Powders.	5–90	0–94	1–15
Suspensions, Emulsions, Solutions (including Emulsifiable Concentrates)	5–50	40–95	0–15
Dusts	1–25	70–99	0–5
Granules and Pellets	0.01–99	5–99.99	0–15
High Strength Compositions	90–99	0–10	0–2

Typical solid diluents are described in Watkins, et al., *Handbook of Insecticide Dust Diluents and Carriers*, 2nd Ed., Dorland Books, Caldwell, New Jersey. Typical liquid diluents are described in Marsden, *Solvents Guide*, 2nd Ed., Interscience, New York, 1950. *McCutcheon's Detergents and Emulsifiers Annual*, Allured Publ. Corp., Ridgewood, New Jersey, as well as Sisely and Wood, *Encyclopedia of Surface Active Agents*, Chemical Publ. Co., Inc., New York, 1964, list surfactants and recommended uses. All formulations can contain minor amounts of additives to reduce foam, caking, corrosion, microbiological growth and the like, or thickeners to increase viscosity.

Surfactants include, for example, polyethoxylated alcohols, polyethoxylated alkylphenols, polyethoxylated sorbitan fatty acid esters, dialkyl sulfosuccinates, alkyl sulfates, alkylbenzene sulfonates, organosilicones, *N,N*-dialkyltaurates, lignin sulfonates, naphthalene sulfonate formaldehyde condensates, polycarboxylates, and polyoxyethylene/polyoxypropylene block copolymers. Solid diluents include, for example, clays such as bentonite, montmorillonite, attapulgite and kaolin, starch, sugar, silica, talc, diatomaceous earth, urea, calcium carbonate, sodium carbonate and bicarbonate, and sodium sulfate. Liquid diluents include, for example, water, *N,N*-dimethylformamide, dimethyl sulfoxide, *N*-alkylpyrrolidone, ethylene glycol, polypropylene glycol, paraffins, alkylbenzenes, alkylnaphthalenes, oils of olive, castor, linseed, tung, sesame, corn, peanut, cotton-seed, soybean, rape-seed and coconut, fatty

acid esters, ketones such as cyclohexanone, 2-heptanone, isophorone and 4-hydroxy-4-methyl-2-pentanone, and alcohols such as methanol, cyclohexanol, decanol and tetrahydrofurfuryl alcohol.

Solutions, including emulsifiable concentrates, can be prepared by simply mixing the ingredients. Dusts and powders can be prepared by blending and, usually, grinding as in a hammer mill or fluid-energy mill. Suspensions are usually prepared by wet-milling; see, for example, U.S. 3,060,084. Granules and pellets can be prepared by spraying the active material upon preformed granular carriers or by agglomeration techniques. See Browning, "Agglomeration", *Chemical Engineering*, December 4, 1967, pp 147-48, *Perry's Chemical Engineer's Handbook*, 4th Ed., McGraw-Hill, New York, 1963, pages 8-57 and following, and WO 91/13546. Pellets can be prepared as described in U.S. 4,172,714. Water-dispersible and water-soluble granules can be prepared as taught in U.S. 4,144,050, U.S. 3,920,442 and DE 3,246,493. Tablets can be prepared as taught in U.S. 5,180,587, U.S. 5,232,701 and U.S. 5,208,030. Films can be prepared as taught in GB 2,095,558 and U.S. 3,299,566.

For further information regarding the art of formulation, see U.S. 3,235,361, Col. 6, line 16 through Col. 7, line 19 and Examples 10-41; U.S. 3,309,192, Col. 5, line 43 through Col. 7, line 62 and Examples 8, 12, 15, 39, 41, 52, 53, 58, 132, 138-140, 162-164, 166, 167 and 169-182; U.S. 2,891,855, Col. 3, line 66 through Col. 5, line 17 and Examples 1-4; Klingman, *Weed Control as a Science*, John Wiley and Sons, Inc., New York, 1961, pp 81-96; and Hance et al., *Weed Control Handbook*, 8th Ed., Blackwell Scientific Publications, Oxford, 1989.

In the following Examples, all percentages are by weight and all formulations are prepared in conventional ways. Compound numbers refer to compounds in Index Tables A-E.

Example A

Wettable Powder

Compound 12	65.0%
dodecylphenol polyethylene glycol ether	2.0%
sodium ligninsulfonate	4.0%
sodium silicoaluminate	6.0%
montmorillonite (calcined)	23.0%.

Example B

Granule

Compound 26	10.0%
attapulgite granules (low volatile matter, 0.71/0.30 mm; U.S.S. No. 25–50 sieves)	90.0%.

Example C

Extruded Pellet

Compound 12	25.0%
anhydrous sodium sulfate	10.0%
crude calcium ligninsulfonate	5.0%
sodium alkylnaphthalenesulfonate	1.0%
calcium/magnesium bentonite	59.0%.

Example D

Emulsifiable Concentrate

Compound 26	20.0%
blend of oil soluble sulfonates and polyoxyethylene ethers	10.0%
isophorone	70.0%.

The compounds of this invention are useful as plant disease control agents. The present invention therefore further comprises a method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof to be protected, or to the plant seed or seedling to be protected, an effective amount of a compound of the invention or a fungicidal composition containing said compound. The compounds and compositions of this invention provide control of diseases caused by a broad spectrum of fungal plant pathogens in the Basidiomycete, Ascomycete, Oomycete and Deuteromycete classes. They are effective in controlling a broad spectrum of plant diseases, particularly foliar pathogens of ornamental, vegetable, field, cereal, and fruit crops. These pathogens include *Plasmopara viticola, Phytophthora infestans, Peronospora tabacina, Pseudoperonospora cubensis, Pythium aphanidermatum, Alternaria brassicae, Septoria nodorum, Septoria tritici, Cercosporidium personatum, Cercospora arachidicola, Pseudocercosporella herpotrichoides, Cercospora beticola, Botrytis cinerea, Monilinia fructicola, Pyricularia oryzae, Podosphaera leucotricha, Venturia inaequalis, Erysiphe graminis, Uncinula necatur, Puccinia recondita, Puccinia graminis, Hemileia vastatrix, Puccinia striiformis, Puccinia arachidis, Rhizoctonia solani, Sphaerotheca fuliginea, Fusarium oxysporum, Verticillium dahliae, Pythium aphanidermatum, Phytophthora megasperma, Sclerotinia sclerotiorum,*

Sclerotium rolfsii, Erysiphe polygoni, Pyrenophora teres, Gaeumannomyces graminis, Rynchosporium secalis, Fusarium roseum, Bremia lactucae and other generea and species closely related to these pathogens.

Compounds of this invention can also be mixed with one or more other insecticides, fungicides, nematocides, bactericides, acaricides, growth regulators, chemosterilants, semiochemicals, repellents, attractants, pheromones, feeding stimulants or other biologically active compounds to form a multi-component pesticide giving an even broader spectrum of agricultural protection. Examples of such agricultural protectants with which compounds of this invention can be formulated are: insecticides such as abamectin, acephate, azinphos-methyl, bifenthrin, buprofezin, carbofuran, chlorpyrifos, chlorpyrifos-methyl, cyfluthrin, beta-cyfluthrin, deltamethrin, diafenthiuron, diazinon, diflubenzuron, dimethoate, esfenvalerate, fenpropathrin, fenvalerate, fipronil, flucythrinate, tau-fluvalinate, fonophos, imidacloprid, isofenphos, malathion, metaldehyde, methamidophos, methidathion, methomyl, methoprene, methoxychlor, monocrotophos, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, rotenone, sulprofos, tebufenozide, tefluthrin, terbufos, tetrachlorvinphos, thiodicarb, tralomethrin, trichlorfon and triflumuron; fungicides such as azoxystrobin (ICIA5504), benomyl, blasticidin-S, Bordeaux mixture (tribasic copper sulfate), bromuconazole, captafol, captan, carbendazim, chloroneb, chlorothalonil, copper oxychloride, copper salts, cymoxanil, cyproconazole, cyprodinil (CGA 219417), diclomezine, dicloran, difenoconazole, dimethomorph, diniconazole, diniconazole-M, dodine, edifenphos, epoxyconazole (BAS 480F), fenarimol, fenbuconazole, fenpiclonil, fenpropidin, fenpropimorph, fluquinconazole, flusilazole, flutolanil, flutriafol, folpet, fosetyl-aluminum, furalaxyl, hexaconazole, ipconazole, iprobenfos, iprodione, isoprothiolane, kasugamycin, kresoxim-methyl (BAS 490F), mancozeb, maneb, mepronil, metalaxyl, metconazole, myclobutanil, neo-asozin (ferric methanearsonate), oxadixyl, penconazole, pencycuron, probenazole, prochloraz, propiconazole, pyrifenox, pyroquilon, sulfur, tebuconazole, tetraconazole, thiabendazole, thiophanate-methyl, thiram, triadimefon, triadimenol, tricyclazole, triticonazole, uniconazole, validamycin and vinclozolin; nematocides such as aldoxycarb and fenamiphos; bactericides such as streptomycin; acaricides such as amitraz, chinomethionat, chlorobenzilate, cyhexatin, dicofol, dienochlor, fenazaquin, fenbutatin oxide, fenpropathrin, fenpyroximate, hexythiazox, propargite, pyridaben and tebufenpyrad; and biological agents such as *Bacillus thuringiensis*, *Bacillus thuringiensis* delta endotoxin, baculovirus, and entomopathogenic bacteria, virus and fungi.

In certain instances, combinations with other fungicides having a similar spectrum of control but a different mode of action will be particularly advantageous for resistance management.

Preferred for better control of plant diseases caused by fungal plant pathogens (e.g., lower use rate or broader spectrum of plant pathogens controlled) or resistance management are mixtures of a compound of this invention with a fungicide selected from the group cyproconazole, cyprodinil (CGA 219417), epoxyconazole (BAS 480F), fenpropidin, fenpropimorph, flusilazole and tebuconazole. Specifically preferred mixtures (compound numbers refer to compounds in Index Tables A-E) are selected from the group: compound 6 and cyproconazole; compound 6 and cyprodinil (CGA 219417); compound 6 and epoxyconazole (BAS 480F); compound 6 and fenpropidin; compound 6 and fenpropimorph; compound 6 and flusilazole; compound 6 and tebuconazole; compound 12 and cyproconazole; compound 12 and cyprodinil (CGA 219417); compound 12 and epoxyconazole (BAS 480F); compound 12 and fenpropidin; compound 12 and fenpropimorph; compound 12 and flusilazole; compound 12 and tebuconazole; compound 18 and cyproconazole; compound 18 and cyprodinil (CGA 219417); compound 18 and epoxyconazole (BAS 480F); compound 18 and fenpropidin; compound 18 and fenpropimorph; compound 18 and flusilazole; compound 18 and tebuconazole; compound 26 and cyproconazole; compound 26 and cyprodinil (CGA 219417); compound 26 and epoxyconazole (BAS 480F); compound 26 and fenpropidin; compound 26 and fenpropimorph; compound 26 and flusilazole; and compound 26 and tebuconazole.

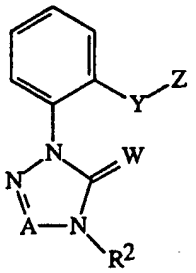
Plant disease control is ordinarily accomplished by applying an effective amount of a compound of this invention either pre- or post-infection, to the portion of the plant to be protected such as the roots, stems, foliage, fruit, seeds, tubers or bulbs, or to the media (soil or sand) in which the plants to be protected are growing. The compounds can also be applied to the seed to protect the seed and seedling.

Rates of application for these compounds can be influenced by many factors of the environment and should be determined under actual use conditions. Foliage can normally be protected when treated at a rate of from less than 1 g/ha to 5,000 g/ha of active ingredient. Seed and seedlings can normally be protected when seed is treated at a rate of from 0.1 to 10 g per kilogram of seed.

The following TESTS demonstrate the control efficacy of compounds of this invention on specific pathogens. The pathogen control protection afforded by the compounds is not limited, however, to these species. See Index Tables A-E for compound descriptions. The following abbreviations are used in the Index Tables which

follow: Ph = phenyl, PhO = phenoxy, and CN = cyano. The abbreviation "Ex." stands for "Example" and is followed by a number indicating in which example the compound is prepared.

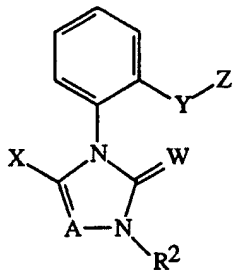
INDEX TABLE A



Cmpd No.	A	W	R^2	Y	Z	m.p.(°C)
1	N	O	H	SCH_2	Ph	152-159
2	N	O	$CH(CH_3)_2$	SCH_2	Ph	88-90
3	N	O	CO_2CH_3	SCH_2	Ph	70-71
4	N	O	H	$S(O)_2CH_2$	Ph	154-156
5	N	O	$COCH_3$	SCH_2	Ph	75-76
6 (Ex. 3)	N	O	CH_3	$CH_2ON=C(CH_3)$	3-CF_3-Ph	oil*
7 (Ex. 4)	N	O	CH_3	$CH=NOCH_2$	3-CF_3-Ph	oil*
8 (Ex. 2)	CCH_3	O	CH_3	$CH_2ON=C(CH_3)$	3-$Ge(CH_3)_3$-Ph	oil*
9	CCH_3	O	CH_3	$CH_2ON=C(CH_3)$	4-$Si(CH_3)_3$-Ph	oil*
10	CH	O	CH_3	$CH_2ON=C(CH_3)$	3-$Ge(CH_3)_3$-Ph	oil*
11	N	O	CH_3	$CH=NOCH(CH_3)$	3-CF_3-Ph	oil*
12 (Ex. 7)	N	O	CH_3	$CH_2ON=C(CH_3)$	3-$Si(CH_3)_3$-Ph	oil*
13	N	O	CH_3	$CH_2ON=C(CH_3)$	3,5-diCl-Ph	94-96

*See Index Table E for ^1H NMR data.

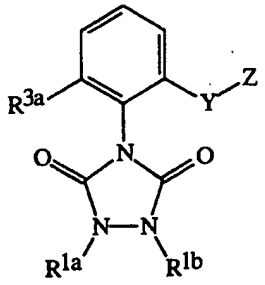
INDEX TABLE B



Cmpd No.	A	W	X	R^2	Y	Z	m. p. (°C)
14	N	O	$NHCH_3$	CH_3	CH_2O	2,5-diCH_3-Ph	131-136
15 (Ex. 1)	N	O	$NHCH_3$	CH_3	$CH_2ON=C(CH_3)$	5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl	about 50*
16	N	O	CF_3	CH_3	O	3-PhO-Ph	oil*
17	N	S	CF_3	CH_3	CH_2O	2,5-diCH_3-Ph	gum*
18	N	O	$NHCH_3$	CH_3	$CH_2ON=C(CH_3)$	3-$Si(CH_3)_3$-Ph	gum*
19	N	O	$NHCH_3$	CH_3	$CH_2ON=C(CH_3)$	3,5-diCF_3-Ph	140-143
20	N	S	CF_3	CH_3	$CH_2ON=C(CH_3)$	3-CF_3-Ph	128-131
21	N	O	CF_3	CH_3	CH_2O	2,5-diCH_3-Ph	162-165
22	N	O	H	CH_3	$CH_2ON=C(CH_3)$	3,5-diCl-Ph	gum*
23	N	O	$NHCH_3$	CH_3	$CH_2ON=C(CH_3)$	3,5-bis($Si(CH_3)_3$)-Ph	gum*
24	N	O	CH_2CH_3	CH_3	$CH_2ON=C(CH_3)$	3-CF_3-Ph	102-106
25	N	O	$N(CH_3)_2$	CH_3	$CH_2ON=C(CH_3)$	3-$Si(CH_3)_3$-Ph	oil*
26 (Ex. 6)	N	O	CH_3	CH_3	$CH_2ON=C(CH_3)$	3-CF_3-Ph	oil*

*See Index Table E for ^1H NMR data.

INDEX TABLE C

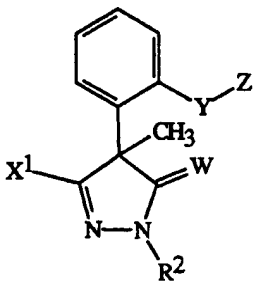


wherein R^{1a} and R^{1b} are defined as R^1 and R^{3a} is defined as H or R^3

Cmpd No.	R^{1a}	R^{1b}	R^{3a}	Y	Z	m. p. (°C)
27	CH_3	CH_3	H	CH=CH (*trans*)	Ph	solid*
28	CH_2CH_3	CH_2CH_3	H	direct bond	CH_3	99-102
29	CH_3	CH_3	CH_3	O	3-(2-CN-PhO)-Ph	oil*
30	CH_3	CH_3	CH_3	O	3-(2-Br-PhO)-Ph	oil*
31	CH_3	CH_3	CH_3	O	6-(2-F-PhO)-pyrimidin-4-yl	oil*
32 (Ex. 5)	$CH_2C{\equiv}CH$	CH_3	H	$CH_2ON{=}C(CH_3)$	3-CF_3O-Ph	oil*
33	$CH{=}C{=}CH_2$	CH_3	H	$CH_2ON{=}C(CH_3)$	3-CF_3O-Ph	oil*

*See Index Table E for ^1H NMR data.

INDEX TABLE D



Cmpd No.	W	X^1	R^2	Y	Z	m. p. (°C)
34 (Ex. 8)	O	OCH_3	CH_3	CH_2O	2-CH_3-Ph	147-150

INDEX TABLE E

Cmpd No.	^{1}H NMR Data ($CDCl_3$ solution unless indicated otherwise)[a]
6	δ 2.18 (s,3H), 3.64 (s,3H), 5.34 (s,2H), 7.40-7.60 (m,4H), 7.60-7.65 (m,2H), 7.76 (d,1H, J=7.9Hz).
7	δ 3.67 (s,3H), 5.21 (s,2H), 7.4-7.6 (m,6H), 7.63 (s,1H), 7.95 (m,1H), 8.15 (s,1H).
8	δ 0.39 (s,9H), 2.23 (s,3H), 2.24 (s,3H), 3.24 (s,3H), 5.36 (s,2H), 7.29-7.46 (m,5H), 7.53-7.60 (m,2H), 7.66 (s,1H).
9	δ 0.26 (s,9H), 2.22 (s,3H), 2.24 (s,3H), 3.25 (s,3H), 5.35 (s,2H), 7.35-7.40 (m,3H), 7.47-7.56 (m,2H), 7.57-7.59 (m,3H).
10	δ 0.38 (s,9H), 2.23 (s,3H), 3.32 (s,3H), 5.35 (s,2H), 7.30-7.60 (m,8H), 7.67 (s,1H).
11	δ 1.58 (d,3H,J=6.8), 3.67 (s,3H), 5.3 (q,1H), 7.4-7.6 (m,7H), 7.83 (m,1H), 8.13 (s,1H).
12	δ 0.27 (s,9H), 2.17 (s,3H), 3.61 (s,3H), 5.32 (s,2H), 7.35 (m,1H), 7.4-7.6 (m,5H), 7.60 (m,1H), 7.68 (s,1H).
15	δ 7.65 (d,1H), 7.6-7.1 (m,6H), 5.15 (m,2H), 3.95 (m,1H), 3.45 (s,3H), 2.6 (d,3H), 2.2 (s,3H), 1.65 (s,4H), 1.25 (s,12H).
16	3.5 (s,3H), 6.7-6.8 (m,3H), 6.95-7.05 (m,3H), 7.1-7.2 (m,2H), 7.25-7.45 (m,5H).
17	δ 2.05 (s,3H), 2.15 (s,3H), 3.65 (d,1H), 3.85 (d,1H), 3.9 (s,3H), 5.3 (s,1H), 6.6 (m,1H), 6.75 (m,1H), 7.0 (m,1H), 7.2 (m,1H), 7.3-7.5 (m,2H).
18	δ 7.65 (d,1H), 7.6 (s,1H), 7.4-7.55 (m,4H), 7.35 (t,1H), 7.25 (d,1H), 5.2 (m,2H), 4.0 (m,1H), 3.43 (s,3H), 2.6 (d,3H), 2.23 (s,3H), 0.24 (s,9H).
22	δ 7.6 (d,1H), 7.4-7.55 (m,5H), 7.35 (m,2H), 5.24 (s,2H), 3.54 (s,3H), 2.15 (s,3H).
23	δ 7.65 (m,2H), 7.55 (s,2H), 7.5 (m,2H), 7.25 (1H), 5.2 (m,2H), 4.1 (m,1H), 3.43 (s,3H), 2.55 (d,3H), 2.24. (s,3H), 0.25 (s,18H).
25	δ 7.2-7.7 (m,8H), 5.3 (d,2H), 3.4 (s,3H), 2.6 (s,6H), 2.2 (s,3H), 0.3 (s,9H).
26	δ 7.85 (s,1H), 7.75 (d,1H), 7.6 (m,2H), 7.45 (m,3H), 7.2 (d,1H), 5.2 (m,2H), 3.5 (s,3H), 2.2 (s,3H), 2.0 (s,3H).
27	δ 7.78 (d,1H), 7.5-7.2 (m,8H), 7.08 (d,1H), 6.98 (d,1H), 3.28 (s,6H).
29	δ 2.27 (s,3H), 3.18 (s,6H), 6.80 (m,3H), 6.85 (m,1H), 6.95 (m,1H), 7.05-7.20 (m,2H), 7.30 (m,2H), 7.50 (m,1H), 7.65 (m,1H).

30	δ 2.27 (s,3H), 3.18 (s,6H), 6.65-6.75 (m,3H), 6.85 (m,1H), 7.00-7.10 (m,3H), 7.20-7.30 (m,3H), 7.62 (dd,1H,J=7.9,1.6).
31	δ 2.31 (s,3H), 3.14 (s,6H), 6.47 (d,1H,J=0.7), 7.20-7.30 (m,6H), 7.42(t,1H,J=7.9), 8.40 (d,1H,J=0.5).
32	δ 7.25-7.6 (m,7H), 7.2 (d,1H), 5.25 (s,2H), 4.35 (d,2H), 3.25 (s,3H), 2.3 (t,1H), 2.19 (s,3H).
33	δ 7.3-7.6 (m,7H), 7.2 (d,1H), 6.85 (t,1H), 5.35-5.6 (m,2H), 5.25 (m,2H), 3.25 (s,3H), 2.18 (s,3H).

[a] ^{1}H NMR data are in ppm downfield from tetramethylsilane. Couplings are designated by (s)-singlet, (d)-doublet, (t)-triplet, (q)-quartet, (m)-multiplet, (dd)-doublet of doublets.

BIOLOGICAL EXAMPLES OF THE INVENTION

Test compounds were first dissolved in acetone in an amount equal to 3% of the final volume and then suspended at a concentration of 200 ppm in purified water containing 250 ppm of the surfactant Trem® 014 (polyhydric alcohol esters). The resulting test suspensions were then used in the following tests. Spraying these 200 ppm test suspensions to the point of run-off on the test plants is the equivalent of a rate of 500 g/ha.

TEST A

The test suspension was sprayed to the point of run-off on wheat seedlings. The following day the seedlings were inoculated with a spore dust of *Erysiphe graminis f. sp. tritici*, (the causal agent of wheat powdery mildew) and incubated in a growth chamber at 20°C for 7 days, after which disease ratings were made.

TEST B

The test suspension was sprayed to the point of run-off on wheat seedlings. The following day the seedlings were inoculated with a spore suspension of *Puccinia recondita* (the causal agent of wheat leaf rust) and incubated in a saturated atmosphere at 20°C for 24 h, and then moved to a growth chamber at 20°C for 6 days, after which disease ratings were made.

TEST C

The test suspension was sprayed to the point of run-off on rice seedlings. The following day the seedlings were inoculated with a spore suspension of *Pyricularia oryzae* (the causal agent of rice blast) and incubated in a saturated atmosphere at 27°C for 24 h, and then moved to a growth chamber at 30°C for 5 days, after which disease ratings were made.

TEST D

The test suspension was sprayed to the point of run-off on tomato seedlings. The following day the seedlings were inoculated with a spore suspension of *Phytophthora infestans* (the causal agent of potato and tomato late blight) and incubated in a saturated atmosphere at 20°C for 24 h, and then moved to a growth chamber at 20°C for 5 days, after which disease ratings were made.

TEST E

The test suspension was sprayed to the point of run-off on grape seedlings. The following day the seedlings were inoculated with a spore suspension of *Plasmopara viticola* (the causal agent of grape downy mildew) and incubated in a saturated atmosphere at 20°C for 24 h, moved to a growth chamber at 20°C for 6 days, and then incubated in a saturated atmosphere at 20°C for 24 h, after which disease ratings were made.

TEST F

The test suspension was sprayed to the point of run-off on cucumber seedlings. The following day the seedlings were inoculated with a spore suspension of *Botrytis cinerea* (the causal agent of gray mold on many crops) and incubated in a saturated atmosphere at 20°C for 48 h, and moved to a growth chamber at 20°C for 5 days, after which disease ratings were made.

Results for Tests A-F are given in Table A. In the table, a rating of 100 indicates 100% disease control and a rating of 0 indicates no disease control (relative to the controls). A dash (-) indicates no test results.

Table A

Cmpd No.	Test A	Test B	Test C	Test D	Test E	Test F
1	13[a]	4[a]	33[a]	0[a]	7[a]	-
2	0[a]	20[a]	0[a]	0[a]	65[a]	-
3	0	-	83	26	0	-
4	0	-	17	0	-	-
5	0	-	0	0	-	-
6	100	98	53	0	44[b]	72
7	86	67	0	25	-	47
8	87	0	0	0	-	49
9	78	0	0	0	-	49
10	100	93	0	0	26[c]	46
11	91	25	0	20	0[b]	0

12	99	99	74	21	7[b]	89
13	98	24	0	0	5[b]	81
14	96	93	0	22	7[b]	0
15	77	97	0	96	86[b]	89
16	100	100	53	0	3[b]	0
17	0	0	0	0	-	0
18	90	100	52	92	26[b]	45
19	94	24	0	16	1[b]	5
20	99	97	53	0	7[b]	68
21	60	0	0	0	7[b]	81
22	91	93	0	26	4[b]	68
23	0	93	0	46	0[b]	0
24	76	100	94	96	26[b]	0
25	34	93	0	71	59[b]	64
26	99	100	53	25	17[b]	0
27	0	0	0	0	36	0
28	0	0	0	0	-	0
29	86	94	0	99	-	32
30	90	99	91	79	37[b]	98
31	-	-	-	-	-	-
32	-	-	-	-	-	-
33	-	-	-	-	-	-
34	100	26	0	0	7[c]	4

[a] Compound tested at 100 ppm (equivalent to 250 g/ha).

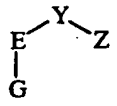
[b] Compound tested at 10 ppm (equivalent to 25 g/ha).

[c] Compound tested at 40 ppm (equivalent to 100 g/ha).

CLAIMS

What is claimed is:

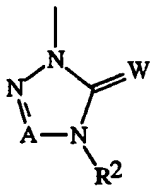
1. A compound selected from Formula I, *N*-oxides and agriculturally suitable salts thereof,



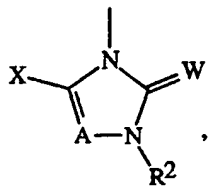
I

wherein

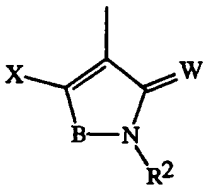
G is selected from the group



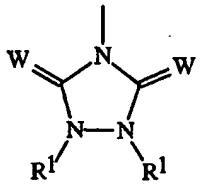
G-1



G-2

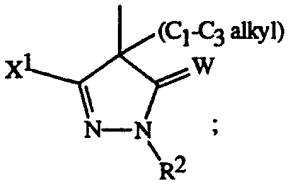


G-3



G-4

, and



G-5 ;

E is selected from:

i) 1,2-phenylene optionally substituted with one of R^3, R^4, or both R^3 and R^4;

ii) a naphthalene ring, provided that when G and Y are attached to the same ring, then G and Y are attached to adjacent ring members, the naphthalene ring optionally substituted with one of R^3, R^4, or both R^3 and R^4; and

iii) a ring system selected from 5 to 12-membered monocyclic and fused bicyclic aromatic heterocyclic ring systems, each heterocyclic ring system containing 1 to 6 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring system

contains no more than 4 nitrogens, no more than 2 oxygens, and no more than 2 sulfurs, each fused bicyclic ring system optionally containing one nonaromatic ring that optionally includes one or two Q as ring members and optionally includes one or two ring members independently selected from C(=O) and $S(O)_2$, provided that G is attached to an aromatic ring, and when G and Y are attached to the same ring, then G and Y are attached to adjacent ring members, each aromatic heterocyclic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

A is N or CR^{14};

B is O; S; or NR^5;

each W is independently O; S; NH; $N(C_1\text{-}C_6$ alkyl); or $NO(C_1\text{-}C_6$ alkyl);

X is H; $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_3\text{-}C_6$ cycloalkyl; cyano; NH_2; NHR^1; $N(C_1\text{-}C_6$ alkyl)R^1; $NH(C_1\text{-}C_6$ alkoxy); or $N(C_1\text{-}C_6$ alkoxy)R^1;

X^1 is $C_1\text{-}C_6$ alkoxy; $C_1\text{-}C_6$ haloalkoxy; $C_2\text{-}C_6$ alkenyloxy; $C_2\text{-}C_6$ haloalkenyloxy; $C_2\text{-}C_6$ alkynyloxy; $C_2\text{-}C_6$ haloalkynyloxy; $C_3\text{-}C_6$ cycloalkoxy; $C_1\text{-}C_6$ alkylthio; $C_1\text{-}C_6$ haloalkylthio; $C_2\text{-}C_6$ alkenylthio; $C_2\text{-}C_6$ haloalkenylthio; $C_2\text{-}C_6$ alkynylthio; $C_2\text{-}C_6$ haloalkynylthio; $C_3\text{-}C_6$ cycloalkylthio; $C_1\text{-}C_6$ alkylsulfinyl; $C_1\text{-}C_6$ haloalkylsulfinyl; $C_2\text{-}C_6$ alkenylsulfinyl; $C_2\text{-}C_6$ haloalkenylsulfinyl; $C_2\text{-}C_6$ alkynylsulfinyl; $C_2\text{-}C_6$ haloalkynylsulfinyl; $C_3\text{-}C_6$ cycloalkylsulfinyl; $C_1\text{-}C_6$ alkylsulfonyl; $C_1\text{-}C_6$ haloalkylsulfonyl; $C_2\text{-}C_6$ alkenylsulfonyl; $C_2\text{-}C_6$ haloalkenylsulfonyl; $C_2\text{-}C_6$ alkynylsulfonyl; $C_2\text{-}C_6$ haloalkynylsulfonyl; $C_3\text{-}C_6$ cycloalkylsulfonyl; halogen; or X;

each R^1 is independently $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_2\text{-}C_6$ alkenyl; $C_2\text{-}C_6$ haloalkenyl; $C_2\text{-}C_6$ alkynyl; $C_2\text{-}C_6$ haloalkynyl; $C_3\text{-}C_6$ cycloalkyl; $C_1\text{-}C_6$ alkoxy; formyl; $C_2\text{-}C_4$ alkylcarbonyl; or $C_2\text{-}C_4$ alkoxycarbonyl; provided that when G is G-4, then only one of R^1 can be $C_1\text{-}C_6$ alkoxy;

R^2 is H; $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_2\text{-}C_6$ alkenyl; $C_2\text{-}C_6$ haloalkenyl; $C_2\text{-}C_6$ alkynyl; $C_2\text{-}C_6$ haloalkynyl; $C_3\text{-}C_6$ cycloalkyl; $C_2\text{-}C_4$ alkylcarbonyl; $C_2\text{-}C_4$ alkoxycarbonyl; hydroxy; $C_1\text{-}C_2$ alkoxy; or acetyloxy;

R^3 and R^4 are each independently halogen; cyano; nitro; hydroxy; $C_1\text{-}C_6$ alkyl; $C_1\text{-}C_6$ haloalkyl; $C_2\text{-}C_6$ alkenyl; $C_2\text{-}C_6$ haloalkenyl; $C_2\text{-}C_6$ alkynyl; $C_2\text{-}C_6$ haloalkynyl; $C_1\text{-}C_6$ alkoxy; $C_1\text{-}C_6$ haloalkoxy; $C_2\text{-}C_6$ alkenyloxy; $C_2\text{-}C_6$ alkynyloxy; $C_1\text{-}C_6$ alkylthio; $C_1\text{-}C_6$ alkylsulfinyl; $C_1\text{-}C_6$ alkylsulfonyl; formyl; $C_2\text{-}C_6$ alkylcarbonyl; $C_2\text{-}C_6$ alkoxycarbonyl; $NH_2C(O)$; $(C_1\text{-}C_4$ alkyl)$NHC(O)$; $(C_1\text{-}C_4$ alkyl$)_2NC(O)$; $Si(R^{25})_3$; $Ge(R^{25})_3$;

$(R^{25})_3Si$-C≡C-; or phenyl, phenylethynyl, benzoyl, or phenylsulfonyl each substituted with R^8 and optionally substituted with one or more R^{10}; or

when E is 1,2-phenylene and R^3 and R^4 are attached to adjacent atoms, R^3 and R^4 can be taken together as C_3-C_5 alkylene, C_3-C_5 haloalkylene, C_3-C_5 alkenylene or C_3-C_5 haloalkenylene each optionally substituted with 1-2 C_1-C_3 alkyl;

R^5 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; C_2-C_4 alkylcarbonyl; or C_2-C_4 alkoxycarbonyl;

Y is -O-; -$S(O)_n$-; -NR^{15}-; -C(=O)-; -$CH(OR^{15})$-; -CHR^6-; -CHR^6CHR^6-; -CR^6=CR^6-; -C≡C-; -$CHR^{15}O$-; -$OCHR^{15}$-; -$CHR^{15}S(O)_n$-; -$S(O)_nCHR^{15}$-; -$CHR^{15}O$-N=$C(R^7)$-; -(R^7)C=N-$OCH(R^{15})$-; -$C(R^7)$=N-O-; -O-N=$C(R^7)$-; -$CHR^{15}OC(=O)N(R^{15})$-; -$CHR^{15}OC(=S)N(R^{15})$-; -$CHR^{15}OC(=O)O$-; -$CHR^{15}OC(=S)O$-; -$CHR^{15}OC(=O)S$-; -$CHR^{15}OC(=S)S$-; -$CHR^{15}SC(=O)N(R^{15})$-; -$CHR^{15}SC(=S)N(R^{15})$-; -$CHR^{15}SC(=O)O$-; -$CHR^{15}SC(=S)O$-; -$CHR^{15}SC(=O)S$-; -$CHR^{15}SC(=S)S$-; -$CHR^{15}SC(=NR^{15})S$-; -$CHR^{15}N(R^{15})C(=O)N(R^{15})$-; -$CHR^{15}O$-$N(R^{15})C(=O)N(R^{15})$-; -$CHR^{15}O$-$N(R^{15})C(=S)N(R^{15})$-; -$CHR^{15}O$-N=$C(R^7)NR^{15}$-; -$CHR^{15}O$-N=$C(R^7)OCH_2$-; -$CHR^{15}O$-N=$C(R^7)$-N=N-; -$CHR^{15}O$-N=$C(R^7)$-C(=O)-; -$CHR^{15}O$-N=$C(R^7)$-C(=N-$A^2$-$Z^1$)-$A^1$-; -$CHR^{15}O$-N=$C(R^7)$-$C(R^7)$=N-$A^2$-$A^3$-; -$CHR^{15}O$-N=C(-$C(R^7)$=N-$A^2$-$Z^1$)-; -$CHR^{15}O$-N=$C(R^7)$-$CH_2O$-; -$CHR^{15}O$-N=$C(R^7)$-$CH_2S$-; -O-$CH_2CH_2O$-N=$C(R^7)$-; -$CHR^{15}O$-$C(R^{15})$=$C(R^7)$-; -$CHR^{15}O$-$C(R^7)$=N-; -$CHR^{15}S$-$C(R^7)$=N-; -$C(R^7)$=N-$NR^{15}$-; -CH=N-N=$C(R^7)$-; -$CHR^{15}N(R^{15})$-N=$C(R^7)$-; -$CHR^{15}N(COCH_3)$-N=$C(R^7)$-; -OC(=S)$NR^{15}C(=O)$-; -$CHR^6$-C(=$W^1$)-$A^1$-; -$CHR^6CHR^6$-C(=$W^1$)-$A^1$-; -$CR^6$=$CR^6$-C(=$W^1$)-$A^1$-; -C≡C-C(=$W^1$)-$A^1$-; -N=$CR^6$-C(=$W^1$)-$A^1$-; or a direct bond; and the directionality of the Y linkage is defined such that the moiety depicted on the left side of the linkage is bonded to E and the moiety on the right side of the linkage is bonded to Z;

Z^1 is H or -A^3-Z;

W^1 is O or S;

A^1 is O; S; NR^{15}; or a direct bond;

A^2 is O; NR^{15}; or a direct bond;

A^3 is -C(=O)-; -$S(O)_2$-; or a direct bond;

each R^6 is independently H; 1-2 CH_3; C_2-C_3 alkyl; C_1-C_3 alkoxy; C_3-C_6 cycloalkyl; formylamino; C_2-C_4 alkylcarbonylamino; C_2-C_4 alkoxycarbonylamino; $NH_2C(O)NH$; (C_1-C_3 alkyl)$NHC(O)NH$; (C_1-C_3 alkyl)$_2NC(O)NH$; $N(C_1$-C_3 alkyl)$_2$; piperidinyl; morpholinyl; 1-2 halogen; cyano; or nitro;

each R^7 is independently H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_1-C_6 alkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 alkylsulfonyl; C_1-C_6 haloalkylthio; C_1-C_6 haloalkylsulfinyl; C_1-C_6 haloalkylsulfonyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; C_2-C_4 alkylcarbonyl; C_2-C_4 alkoxycarbonyl; halogen; cyano; nitro; hydroxy; amino; $NH(C_1$-C_6 alkyl); $N(C_1$-C_6 alkyl)$_2$; or morpholinyl;

each Z is independently selected from:

i) C_1-C_{10} alkyl, C_2-C_{10} alkenyl, and C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10};

ii) C_3-C_8 cycloalkyl, C_3-C_8 cycloalkenyl and phenyl each substituted with R^9 and optionally substituted with one or more R^{10};

iii) a ring system selected from 3 to 14-membered monocyclic, fused bicyclic and fused tricyclic nonaromatic heterocyclic ring systems and 5 to 14-membered monocyclic, fused bicyclic and fused tricyclic aromatic heterocyclic ring systems, each heterocyclic ring system containing 1 to 6 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring system contains no more than 4 nitrogens, no more than 2 oxygens, and no more than 2 sulfurs, each nonaromatic or aromatic heterocyclic ring system substituted with R^9 and optionally substituted with one or more R^{10};

iv) a multicyclic ring system selected from 8 to 14-membered fused-bicyclic and fused-tricyclic ring systems which are an aromatic carbocyclic ring system, a nonaromatic carbocyclic ring system, or a ring system containing one or two nonaromatic rings that each include one or two Q as ring members and one or two ring members independently selected from C(=O) and $S(O)_2$, and any remaining rings as aromatic carbocyclic rings, each multicyclic ring system substituted with R^9 and optionally substituted with one or more R^{10}; and

v) adamantyl substituted with R^9 and optionally substituted with one or more R^{10};

each Q is independently selected from the group -CHR^{13}-, -NR^{13}-, -O-, and -$S(O)_p$-;

R^8 is H; 1-2 halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_1-C_6 alkylthio; C_1-C_6 haloalkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 alkylsulfonyl; C_3-C_6 cycloalkyl; C_3-C_6 alkenyloxy; CO_2(C_1-C_6 alkyl); NH(C_1-C_6 alkyl); N(C_1-C_6 alkyl)$_2$; cyano; nitro; $SiR^{19}R^{20}R^{21}$; or $GeR^{19}R^{20}R^{21}$;

R^9 is H; 1-2 halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl or C_3-C_6 cycloalkenyl each optionally substituted with at least one member selected from 1-2 halogen, 1-2 C_1-C_3 alkyl, 1-2 C_1-C_3 alkoxy, and one phenyl optionally substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano; C_2-C_6 alkoxyalkyl; C_2-C_6 alkylthioalkyl; C_3-C_6 alkoxyalkynyl; C_7-C_{10} tetrahydropyranyloxyalkynyl; benzyloxymethyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_3-C_6 alkenyloxy; C_3-C_6 haloalkenyloxy; C_3-C_6 alkynyloxy; C_3-C_6 haloalkynyloxy; C_1-C_6 cycloalkoxy; C_2-C_6 alkoxyalkoxy; C_5-C_9 trialkylsilylalkoxyalkoxy; C_2-C_6 alkylthioalkoxy; C_1-C_6 alkylthio; C_1-C_6 haloalkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 haloalkylsulfinyl; C_1-C_6 alkylsulfonyl; C_1-C_6 haloalkylsulfonyl; C_3-C_6 alkenylthio; C_3-C_6 haloalkenylthio; C_2-C_6 alkylthioalkylthio; CO_2(C_1-C_6 alkyl); NH(C_1-C_6 alkyl); N(C_1-C_6 alkyl)$_2$; -$C(R^{18})$=NOR^{17}; cyano; nitro; SF_5; $SiR^{22}R^{23}R^{24}$; or $GeR^{22}R^{23}R^{24}$; or R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12};

each R^{10} is independently halogen; C_1-C_4 alkyl optionally substituted with 1-3 C_1-C_3 alkoxy; C_1-C_4 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; C_2-C_6 alkoxyalkyl; C_2-C_6 alkylthioalkyl; C_3-C_6 alkoxyalkynyl; C_7-C_{10} tetrahydropyranyloxyalkynyl; benzyloxymethyl; C_1-C_4 alkoxy; C_1-C_4 haloalkoxy; C_3-C_6 alkenyloxy; C_3-C_6 haloalkenyloxy; C_3-C_6 alkynyloxy; C_3-C_6 haloalkynyloxy; C_1-C_6 cycloalkoxy; C_2-C_6 alkoxyalkoxy; C_5-C_9 trialkylsilylalkoxyalkoxy; C_2-C_6 alkylthioalkoxy; C_1-C_4 alkylthio; C_1-C_4 haloalkylthio; C_1-C_4 alkylsulfinyl; C_1-C_4 haloalkylsulfinyl; C_1-C_4 alkylsulfonyl; C_1-C_4 haloalkylsulfonyl; C_3-C_6

alkenylthio; C_3-C_6 haloalkenylthio; C_2-C_6 alkylthioalkylthio; nitro; cyano; thiocyanato; hydroxy; $N(R^{26})_2$; SF_5; $Si(R^{25})_3$; $Ge(R^{25})_3$; $(R^{25})_3Si$-C≡C-; $OSi(R^{25})_3$; $OGe(R^{25})_3$; $C(=O)R^{26}$; $C(=S)R^{26}$; $C(=O)OR^{26}$; $C(=S)OR^{26}$; $C(=O)SR^{26}$; $C(=S)SR^{26}$; $C(=O)N(R^{26})_2$; $C(=S)N(R^{26})_2$; $OC(=O)R^{26}$; $OC(=S)R^{26}$; $SC(=O)R^{26}$; $SC(=S)R^{26}$; $N(R^{26})C(=O)R^{26}$; $N(R^{26})C(=S)R^{26}$; $OC(=O)OR^{27}$; $OC(=O)SR^{27}$; $OC(=O)N(R^{26})_2$; $SC(=O)OR^{27}$; $SC(=O)SR^{27}$; $S(O)_2OR^{26}$; $S(O)_2N(R^{26})_2$; $OS(O)_2R^{27}$; or $N(R^{26})S(O)_2R^{27}$; or

when R^9 and an R^{10} are attached to adjacent atoms on Z, R^9 and said adjacently attached R^{10} can be taken together as $-OCH_2O-$ or $-OCH_2CH_2O-$; each CH_2 group of said taken together R^9 and R^{10} optionally substituted with 1-2 halogen; or

when Y and an R^{10} are attached to adjacent atoms on Z and Y is $-CHR^{15}O-N=C(R^7)-$, $-O-N=C(R^7)-$, $-O-CH_2CH_2O-N=C(R^7)-$, $-CHR^{15}O-C(R^{15})=C(R^7)-$, $-CH=N-N=C(R^7)-$, $-CHR^{15}N(R^{15})-N=C(R^7)-$ or $-CHR^{15}N(COCH_3)-N=C(R^7)-$, R^7 and said adjacently attached R^{10} can be taken together as $-(CH_2)_r-J-$ such that J is attached to Z;

J is $-CH_2-$; $-CH_2CH_2-$; $-OCH_2-$; $-CH_2O-$; $-SCH_2-$; $-CH_2S-$; $-N(R^{16})CH_2-$; or $-CH_2N(R^{16})-$; each CH_2 group of said J optionally substituted with 1 to 2 CH_3;

R^{11} and R^{12} are each independently 1-2 halogen; C_1-C_4 alkyl; C_1-C_4 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_2-C_6 alkoxyalkyl; C_2-C_6 alkylthioalkyl; C_3-C_6 alkoxyalkynyl; C_7-C_{10} tetrahydropyranyloxyalkynyl; benzyloxymethyl; C_1-C_4 alkoxy; C_1-C_4 haloalkoxy; C_3-C_6 alkenyloxy; C_3-C_6 haloalkenyloxy; C_3-C_6 alkynyloxy; C_3-C_6 haloalkynyloxy; C_2-C_6 alkoxyalkoxy; C_5-C_9 trialkylsilylalkoxyalkoxy; C_2-C_6 alkylthioalkoxy; C_1-C_4 alkylthio; C_1-C_4 haloalkylthio; C_1-C_4 alkylsulfinyl; C_1-C_4 haloalkylsulfinyl; C_1-C_4 alkylsulfonyl; C_1-C_4 haloalkylsulfonyl; C_3-C_6 alkenylthio; C_3-C_6 haloalkenylthio; C_2-C_6 alkylthioalkylthio; nitro; cyano; thiocyanato; hydroxy; $N(R^{26})_2$; SF_5; $Si(R^{25})_3$; $Ge(R^{25})_3$; $(R^{25})_3Si$-C≡C-; $OSi(R^{25})_3$; $OGe(R^{25})_3$; $C(=O)R^{26}$; $C(=S)R^{26}$; $C(=O)OR^{26}$; $C(=S)OR^{26}$; $C(=O)SR^{26}$; $C(=S)SR^{26}$; $C(=O)N(R^{26})_2$; $C(=S)N(R^{26})_2$; $OC(=O)R^{26}$; $OC(=S)R^{26}$; $SC(=O)R^{26}$; $SC(=S)R^{26}$; $N(R^{26})C(=O)R^{26}$; $N(R^{26})C(=S)R^{26}$; $OC(=O)OR^{27}$; $OC(=O)SR^{27}$; $OC(=O)N(R^{26})_2$; $SC(=O)OR^{27}$; $SC(=O)SR^{27}$; $S(O)_2OR^{26}$; $S(O)_2N(R^{26})_2$; $OS(O)_2R^{27}$; $N(R^{26})S(O)_2R^{27}$; or phenyl, phenoxy, benzyl, benzyloxy, phenylsulfonyl, phenylethynyl or pyridinylethynyl, each optionally

substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

each R^{13} is independently H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; or phenyl optionally substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

R^{14} is H; halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; or C_3-C_6 cycloalkyl;

each R^{15} is independently H; C_1-C_3 alkyl; C_3-C_6 cycloalkyl; or phenyl or benzyl, each optionally substituted on the phenyl ring with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano; or

when Y is $-CHR^{15}N(R^{15})C(=O)N(R^{15})-$, the two R^{15} attached to nitrogen atoms on said group can be taken together as $-(CH_2)_s-$; or

when Y is $-CHR^{15}O-N=C(R^7)NR^{15}-$, R^7 and the adjacently attached R^{15} can be taken together as $-CH_2-(CH_2)_s-$; $-O-(CH_2)_s-$; $-S-(CH_2)_s-$; or $-N(C_1$-C_3 alkyl$)-(CH_2)_s-$; with the directionality of said linkage defined such that the moiety depicted on the left side of the linkage is bonded to the carbon and the moiety on the right side of the linkage is bonded to the nitrogen;

R^{16}, R^{17}, and R^{18} are each independently H; C_1-C_3 alkyl; C_3-C_6 cycloalkyl; or phenyl optionally substituted with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

R^{19}, R^{20}, R^{21}, R^{22}, R^{23}, and R^{24} are each independently C_1-C_6 alkyl; C_1-C_4 haloalkyl; C_2-C_6 alkenyl; C_1-C_4 alkoxy; or phenyl;

each R^{25} is independently C_1-C_4 alkyl; C_1-C_4 haloalkyl; C_2-C_4 alkenyl; C_1-C_4 alkoxy; or phenyl;

each R^{26} is independently H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; or phenyl or benzyl, each optionally substituted on the phenyl ring with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

each R^{27} is independently C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_2-C_6 haloalkynyl; C_3-C_6 cycloalkyl; or phenyl or benzyl, each optionally substituted on the phenyl ring with halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, nitro or cyano;

n and p are each independently 0, 1 or 2;

r is 0 or 1; and

s is 2 or 3;

provided that

(i) when G is G-1 or G-4 and Z is C_1-C_{10} alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10}, then R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12};

(ii) when G is G-2, X is H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 cycloalkyl or NH_2 and Z is C_1-C_{10} alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10}, then R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12};

(iii) when G is G-1 and A is N, then Y is other than -O-, -$S(O)_n$-, -NR^{15}-, -CHR^6-, -CHR^6CHR^6-, -CR^6=CR^6-, -C≡C-, and a direct bond;

(iv) when G is G-1, A is N and W is S, NH or N(C_1-C_6 alkyl), then R^2 is other than H;

(v) when G is G-3, B is NR^5, X is H, NH_2, NHR^1 or N(C_1-C_6 alkyl)R^1 and Z is C_1-C_{10} alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl each substituted with R^9 and optionally substituted with one or more R^{10}, then R^9 is phenyl, benzyl, benzyloxy, benzoyl, phenoxy, phenylethynyl, phenylthio, phenylsulfonyl, pyridinyl, pyridinyloxy, pyridinylmethyloxy, pyridinylethynyl, pyridinylthio, thienyl, thienyloxy, furanyl, furanyloxy, pyrimidinyl, pyrimidinyloxy or pyrimidinylthio each optionally substituted on the aromatic ring with one of R^{11}, R^{12}, or both R^{11} and R^{12}; and

(vi) when G is G-3, B is NR^5, X is NH_2, NHR^1 or N(C_1-C_6 alkyl)R^1 and Y is O or a direct bond, then Z is other than phenyl substituted with R^9 and optionally substituted with one or more R^{10}.

2. A compound of Claim 1 wherein:

E is selected from the group 1,2-phenylene; 1,5-, 1,6-, 1,7-, 1,8-, 2,6-, 2,7-, 1,2-, and 2,3-naphthalenediyl; 1*H*-pyrrole-1,2-, 2,3- and 3,4-diyl; 2,3- and 3,4-furandiyl; 2,3- and 3,4-thiophenediyl; 1*H*-pyrazole-1,5-, 3,4- and 4,5-diyl; 1*H*-imidazole-1,2-, 4,5- and 1,5-diyl; 3,4- and 4,5-isoxazolediyl;

4,5-oxazolediyl; 3,4- and 4,5-isothiazolediyl; 4,5-thiazolediyl; 1*H*-1,2,3-triazole-1,5- and 4,5-diyl; 2*H*-1,2,3-triazole-4,5-diyl; 1*H*-1,2,4-triazole-1,5-diyl; 4*H*-1,2,4-triazole-3,4-diyl; 1,2,3-oxadiazole-4,5-diyl; 1,2,5-oxadiazole-3,4-diyl; 1,2,3-thiadiazole-4,5-diyl; 1,2,5-thiadiazole-3,4-diyl; 1*H*-tetrazole-1,5-diyl; 2,3- and 3,4-pyridinediyl; 3,4- and 4,5-pyridazinediyl; 4,5-pyrimidinediyl; 2,3-pyrazinediyl; 1,2,3-triazine-4,5-diyl; 1,2,4-triazine-5,6-diyl; 1*H*-indole-1,4-, 1,5-, 1,6-, 1,7-, 2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 1,2-, 2,3-, 4,5-, 5,6- and 6,7-diyl; 2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 2,3-, 4,5-, 5,6- and 6,7-benzofurandiyl; benzo[*b*]thiophene-2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 2,3-, 4,5-, 5,6- and 6,7-diyl; 1*H*-indazole-1,4-, 1,5-, 1,6-, 1,7-, 3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-diyl; 1*H*-benzimidazole-1,4-, 1,5-, 1,6-, 1,7-, 2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-diyl; 1,2-benzisoxazole-3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-diyl; 2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-benzoxazolediyl; 1,2-benzisothiazole-3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-diyl; 2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-benzothiazolediyl; 2,5-, 2,6-, 2,7-, 2,8-, 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 2,3-, 3,4-, 5,6-, 6,7- and 7,8-quinolinediyl; 1,5-, 1,6-, 1,7-, 1,8-, 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 3,4-, 5,6-, 6,7- and 7,8-isoquinolinediyl; 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 3,4-, 5,6-, 6,7- and 7,8-cinnolinediyl; 1,5-, 1,6-, 1,7-, 1,8-, 5,6-, 6,7- and 7,8-phthalazinediyl; 2,5-, 2,6-, 2,7-, 2,8-, 4,5-, 4,6-, 4,7-, 4,8-, 5,6-, 6,7- and 7,8-quinazolinediyl; 2,5-, 2,6-, 2,7-, 2,8-, 2,3-, 5,6-, 6,7- and 7,8-quinoxalinediyl; 1,8,-naphthyridine-2,5-, 2,6-, 2,7-, 3,5-, 3,6-, 4,5-, 2,3- and 3,4-diyl; 2,6-, 2,7-, 4,6-, 4,7-, 6,7-pteridinediyl; pyrazolo[5,1-*b*]thiazole-2,6-, 2,7-, 3,6-, 3,7-, 2,3- and 6,7-diyl; thiazolo[2,3-*c*]-1,2,4-triazole-2,5-, 2,6-, 5,6-diyl; 2-oxo-1,3-benzodioxole-4,5- and 5,6-diyl; 1,3-dioxo-1*H*-isoindole-2,4-, 2,5-, 4,5- and 5,6-diyl; 2-oxo-2*H*-1-benzopyran-3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 5,6-, 6,7- and 7,8-diyl; [1,2,4]triazolo[1,5-*a*]pyridine-2,5-, 2,6-, 2,7-, 2,8-, 5,6-, 6,7- and 7,8-diyl; 3,4-dihydro-2,4-dioxo-2*H*-1,3-benzoxazine-3,5-, 3,6-, 3,7-, 3,8-, 5,6-, 6,7- and 7,8-diyl; 2,3-dihydro-2-oxo-3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-benzofurandiyl; thieno[3,2-*d*]thiazole-2,5-, 2,6-, and 5,6-diyl; 5,6,7,8-tetrahydro-2,5-, 2,6-, 2,7-, 2,8-, 3,5-, 3,6-, 3,7-, 3,8-, 4,5-, 4,6-, 4,7-, 4,8-, 2,3- and 3,4-quinolinediyl;

2,3-dihydro-1,1,3-trioxo-1,2-benzisothiazole-2,4-, 2,5-, 2,6-, 2,7-, 4,5-, 5,6- and 6,7-diyl; 1,3-benzodioxole-2,4-, 2,5-, 4,5- and 5,6-diyl; 2,3-dihydro-2,4-, 2,5-, 2,6-, 2,7-, 3,4-, 3,5-, 3,6-, 3,7-, 4,5-, 5,6- and 6,7-benzofurandiyl; 2,3-dihydro-1,4-benzodioxin-2,5-, 2,6-, 2,7-, 2,8-, 5,6- and 6,7-diyl; and 5,6,7,8-tetrahydro-4*H*-cyclohepta[*b*]thiophene-2,4-, 2,5-, 2,6-, 2,7-, 2,8-, 3,4-, 3,5-, 3,6-, 3,7-, 3,8-, and 2,3-diyl; each aromatic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

W is O;

R^1 is C_1-C_3 alkyl or C_1-C_3 haloalkyl;

R^2 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; or C_3-C_6 cycloalkyl;

R^3 and R^4 are each independently halogen; cyano; nitro; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_1-C_6 alkylthio; C_1-C_6 alkylsulfonyl; C_2-C_6 alkylcarbonyl; C_2-C_6 alkoxycarbonyl; (C_1-C_4 alkyl)NHC(O); (C_1-C_4 alkyl)$_2$NC(O); benzoyl; or phenylsulfonyl;

Y is -O-; -CH=CH-; -C≡C-; -CH_2O-; -OCH_2-; -$CH_2S(O)_n$-; -CH_2O-N=C(R^7)-; -(R^7)C=N-OCH(R^{15})-; -C(R^7)=N-O-; -CH_2OC(O)NH-; -CH_2S-C(R^7)=N-; -CH=CR^6-C(=W^1)-A^1-; or a direct bond;

R^7 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 alkylthio; C_2-C_6 alkenyl; C_2-C_6 alkynyl; C_3-C_6 cycloalkyl; halogen; or cyano; or

when Y and an R^{10} are attached to adjacent atoms on Z and Y is -CH_2O-N=C(R^7)-, R^7 and said adjacently attached R^{10} can be taken together as -(CH_2)$_r$-J- such that J is attached to Z;

Z is selected from the group C_1-C_{10} alkyl; C_3-C_8 cycloalkyl; phenyl; naphthalenyl; anthracenyl; phenanthrenyl; 1*H*-pyrrolyl; furanyl; thienyl; 1*H*-pyrazolyl; 1*H*-imidazolyl; isoxazolyl; oxazolyl; isothiazolyl; thiazolyl; 1*H*-1,2,3-triazolyl; 2*H*-1,2,3-triazolyl; 1*H*-1,2,4-triazolyl; 4*H*-1,2,4-triazolyl; 1,2,3-oxadiazolyl; 1,2,4-oxadiazolyl; 1,2,5-oxadiazolyl; 1,3,4-oxadiazolyl; 1,2,3-thiadiazolyl; 1,2,4-thiadiazolyl; 1,2,5-thiadiazolyl; 1,3,4-thiadiazolyl; 1*H*-tetrazolyl; 2*H*-tetrazolyl; pyridinyl; pyridazinyl; pyrimidinyl; pyrazinyl; 1,3,5-triazinyl; 1,2,4-triazinyl; 1,2,4,5-tetrazinyl; 1*H*-indolyl; benzofuranyl; benzo[*b*]thiophenyl; 1*H*-indazolyl; 1*H*-benzimidazolyl; benzoxazolyl; benzothiazolyl; quinolinyl; isoquinolinyl; cinnolinyl; phthalazinyl; quinazolinyl; quinoxalinyl; 1,8-naphthyridinyl; pteridinyl; 2,3-dihydro-1*H*-indenyl; 1,2,3,4-tetrahydronaphthalenyl; 6,7,8,9-tetrahydro-5*H*-benzocycloheptenyl; 5,6,7,8,9,10-hexahydrobenzocyclooctenyl; 2,3-dihydro-3-oxobenzofuranyl;

1,3-dihydro-1-oxoisobenzofuranyl; 2,3-dihydro-2-oxobenzofuranyl; 3,4-dihydro-4-oxo-2*H*-1-benzopyranyl; 3,4-dihydro-1-oxo-1*H*-2-benzopyranyl; 3,4-dihydro-3-oxo-1*H*-2-benzopyranyl; 3,4-dihydro-2-oxo-2*H*-1-benzopyranyl; 4-oxo-4*H*-1-benzopyranyl; 2-oxo-2*H*-1-benzopyranyl; 2,3,4,5-tetrahydro-5-oxo-1-benzoxepinyl; 2,3,4,5-tetrahydro-2-oxo-1-benzoxepinyl; 2,3-dihydro-1,3-dioxo-1*H*-isoindolyl; 1,2,3,4-tetrahydro-1,3-dioxoisoquinolinyl; 3,4-dihydro-2,4-dioxo-2*H*-1,3-benzoxazinyl; 2-oxo-1,3-benzodioxyl; 2,3-dihydro-1,1,3-trioxo-1,2-benzisothiazolyl; 9*H*-fluorenyl; azulenyl; and thiazolo[2,3-*c*]-1,2,4-triazolyl; each group substituted with R^9 and optionally substituted with one or more R^{10};

R^9 is H; 1-2 halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_1-C_6 alkylthio; cyano; $CO_2(C_1$-C_6 alkyl); $NH(C_1$-C_6 alkyl); $N(C_1$-C_6 alkyl)$_2$; $SiR^{22}R^{23}R^{24}$; or $GeR^{22}R^{23}R^{24}$; or R^9 is C_3-C_6 cycloalkyl, phenyl, phenoxy, pyridinyl, pyridinyloxy, pyrimidinyl, or pyrimidinyloxy, each optionally substituted with one of R^{11}, R^{12}, or both R^{11} and R^{12}; and

each R^{15} is independently H; C_1-C_3 alkyl; or C_3-C_6 cycloalkyl.

3. A compound of Claim 2 wherein:

E is selected from the group 1,2-phenylene; 1,6-, 1,7-, 1,2-, and 2,3-naphthalenediyl; 2,3- and 3,4-furandiyl; 2,3- and 3,4-thiophenediyl; 2,3- and 3,4-pyridinediyl; 4,5-pyrimidinediyl; 2,4-, 2,7-, 3,5-, 2,3-, 4,5-, 5,6- and 6,7-benzofurandiyl; and benzo[*b*]thiophene-2,4-, 2,7-, 3,5-, 2,3-, 4,5-, 5,6- and 6,7-diyl; each aromatic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

Z is selected from the group phenyl; pyridinyl; pyrimidinyl; and naphthalenyl; each group substituted with R^9 and optionally substituted with one or more R^{10};

R^7 is H; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 alkylthio; C_2-C_6 alkenyl; C_2-C_6 alkynyl; cyclopropyl; halogen; or cyano; or

when Y and an R^{10} are attached to adjacent atoms on Z and Y is $-CH_2O-N=C(R^7)-$, R^7 and said adjacently attached R^{10} can be taken together as $-(CH_2)_r-J-$ such that J is attached to Z;

J is $-CH_2-$ or $-CH_2CH_2-$; and

r is 1.

4. A compound of Claim 3 wherein:

E is selected from the group 1,2-phenylene; 2,3- and 3,4-thiophenediyl; and 2,3- and 3,4-pyridinediyl; each aromatic ring system optionally substituted with one of R^3, R^4, or both R^3 and R^4;

B is O or NR^5;

X is C_1-C_3 alkyl; NHR^1; or $N(C_1$-C_3 alkyl)R^1;

R^1 is C_1-C_3 alkyl;

R^2 is H or C_1-C_2 alkyl;

Y is -O-; -CH=CH-; $-CH_2O$-; $-CH_2O$-N=C(R^7)-; -(R^7)C=N-OCH(R^{15})-; $-CH_2OC(=O)NH$-; $-CH_2S$-C(R^7)=N-; or -CH=CR^6-C(=W^1)-A^1-;

R^7 is H; C_1-C_3 alkyl; C_1-C_3 haloalkyl; C_1-C_3 alkoxy; C_1-C_3 alkylthio; or cyclopropyl; and

each R^{15} is independently H; C_1-C_3 alkyl; or cyclopropyl.

5. A compound of Claim 4 wherein G is G-1; and A is N.

6. A compound of Claim 5 wherein R^2 is methyl.

7. A compound of Claim 4 wherein G is G-2; A is N; and X is NHR^1 or $N(C_1$-C_6 alkyl)R^1.

8. A compound of Claim 7 wherein R^1 is methyl; and R^2 is methyl.

9. The compound of Claim 4 which is selected from the group:

1,4-dihydro-1-methyl-4-[2-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-5*H*-tetrazol-5-one;

1,4-dihydro-1-methyl-4-[2-[[[[1-[3-(trimethylsilyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-5*H*-tetrazol-5-one;

2,4-dihydro-2-methyl-5-(methylamino)-4-[2-[[[[1-[3-(trimethylsilyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one; and

2,4-dihydro-2,5-dimethyl-4-[2-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]-3*H*-1,2,4-triazol-3-one.

10. A fungicidal composition comprising a fungicidally effective amount of a compound of Claim 1 and at least one of a surfactant, a solid diluent or a liquid diluent.

11. A method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or seedling, a fungicidally effective amount of a compound of Claim 1.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US96/06507

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :A01N 43/653, 43/713; A61K 31/41; C07D 257/04, 249/12, 249/14
US CL :504/261; 514/381, 384; 548/251, 263.2, 264.6
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 504/261; 514/381, 384; 548/251, 263.2, 264.6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

STN CAS ONLINE, APS (TRIAZONLON?, TETRAZOLON? AND FUNGICID?)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,059,703 A (R.A. BURRELL ET AL.) 22 November 1977 (22.11.77), column 1, lines 11-32.	1-5, 10, 11
X	US 5,138,068 A (J. EHRENFREUND ET AL.) 11 August 1992 (11.08.92), columns 1, 19 and 20.	1-6, 10, 11
A	US 5,064,845 A (A.C. HSU ET AL.) 12 November 1991 (12.11.91), column 1, lines 9-52.	1, 10, 11
X	US 5,108,486 A (K. KONDO ET AL.) 28 April 1992 (28.04.92), columns 4 and 5.	1-4, 10
X	US 5,136,868 A (G. THEODORIDIS) 11 August 1992 (11.08.92), columns 2, 3, 43 and 44.	1-6, 10

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search
26 JULY 1996

Date of mailing of the international search report
23 AUG 1996

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231
Facsimile No. (703) 305-3230

Authorized officer
LAURA L. STOCKTON
Telephone No. (703) 308-1235

Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US96/06507

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 1-8, 10 and 11
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Please See Extra Sheet.

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US96/06507

BOX I. OBSERVATIONS WHERE CLAIMS WERE FOUND UNSEARCHABLE

2. Where no meaningful search could be carried out, specifically:

Claims 1-8, 10 and 11 were found unsearchable because of the multitude of variables and their permutations and combinations (e.g. G, E, Z, etc.) result in claims that are so broad in scope that they are rendered virtually incomprehensible and thus, no meaningful search can be given. Therefore, the first discernable invention as found in the claims 5-9 (i.e. where G is G-1 and G-2 representing triazoles and tetrazoles and no other heterocyclics in the compound) has been searched. Claims 1-8, 10 and 11 are searched to the extent they encompass the subject matter of claims 5-9.